DOCUMENT RESUME

ED 132 785 EC 092 353

TITLE	Ethnic Background in Relation to Other Characteristics of Hearing Impaired Students in the United States. Series D, No. 15.
INSTITUTION	Gallaudet Coll., Washington, D.C. Office of Demographic Studies.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	Aug 75
NOTE	45p.; Data from the annual survey of hearing impaired children and youth
AVAILABLE FROM	Gallaudet College Book Store, Washington, D.C. 20002 ($1.00)
EDRS PRICE	MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS	*Aurally Handicapped; *Demography; Elementary Secondary Education; *Ethnic Distribution; Etiology; Exceptional Child Research; *National Surveys; Preschool Education; *Racial Distribution; *Statistical Data

ABSTRACT

Information, obtained from the annual survey of the Office of Demographic Studies, on the ethnic background of 44,000 hearing impaired students in special education programs in 1972-73 was related to other key demographic characteristics and to national and regional population figures. Data is presented for the categories of White, Black, Spanish-American, other, and unknown in the following areas: special education and general population, geographic regions and states, type of educational program, age and sex, degree of hearing loss, age at onset of hearing loss, cause of hearing loss, additional handicapping conditions, hearing status of parents, and degree of integration. Appended are a paper describing the Office of Demographic Studies, a basic data form used in the 1972-73 annual survey, and a list of programs participating in the survey. (SBH)

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ETHNIC BACKGROUND IN RELATION TO OTHER CHARACTERISTICS OF HEARING IMPAIRED STUDENTS IN THE UNITED STATES

DATA FROM THE ANNUAL SURVEY OF HEARING IMPAIRED CHILDREN AND YOUTH

OFFICE OF DEMOGRAPHIC STUDIES
GALLAUDET COLLEGE

Washington, D.C.

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August 1975

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ACKNOWLEDGEMENTS

It is with thanks that the Office of Demographic Studies presents these results of many people's labors. We wish again to thank all those who contributed their time and talent towards making this publication possible. We acknowledge those at the local programs who coordinated the completion of the data forms and those who had the task of completing the data forms. Appendix III provides a listing of the programs participating in the Annual Survey during the 1972-73 school year. We also thank our National Advisory Committee not only for their time spent in long meetings, but for their general concern and interest in the Annual Survey.

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Although we recognize the efforts of the entire staff at the Office of Demographic Studies, we especially thank Nancy Benedetto for her aid in producing this report.

Peter W. Ries
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Washington, D.C.
August, 1975

ABSTRACT

During the 1972-73 school year the Office of Demographic Studies in its Annual Survey collected and processed information on approximately 44,000 hearing impaired students in special education programs throughout the United States. In this report the ethnic background of these students is related to other key demographic characteristics and to national and regional population figures. The survey revealed that approximately 76% of the students whose ethnic background was reported to the Office were white, 15% were black, 7% Spanish-American, and slightly under 2% were reported as having backgrounds of other ethnic origin, chiefly Oriental and American Indian. This same ethnic distribution was generally reflected in all the age groups except the preprimary school children, the group under 6 years old, which was reported as having 81% whites and 11% blacks.

On the national and regional levels each of the major ethnic groups was proportionately represented during the 1972-73 school year in special education programs for hearing impaired youth. The percentages of black (15.9%) and Spanish-American children (30.8%) attending day schools for the deaf were significantly higher than the percentage of white children (8.4%). Regarding age at which the hearing loss occurred, white students had the highest percentage of congenital losses (77%), while black children had the lowest (65%). Maternal rubella was the chief reported cause of hearing loss among all the ethnic groups; meningitis as a cause of hearing loss was reported as being twice as prevalent among black children as among white and Spanish-American students, while the latter two groups were reported as having heredity as cause of their loss at double the rate experienced by black students.

Permission to cite this report and to use the data contained in it is hereby granted. We request, however, that the Office of Demographic Studies be informed when such citations are made.

Ethnic Background In Relation To Other Characteristics of Hearing Impaired Students in the United States

Peter W. Ries*, Dorothea L. Bateman, & Arthur Schildroth

INTRODUCTION

The information on hearing impaired students in this report was collected by the Office of Demographic Studies (ODS) at Gallaudet College, which conducts the Annual Survey of Hearing Impaired Children and Youth. This Office began operations in the spring of 1968; its goal is the improvement of educational opportunities for hearing impaired students by collecting, analyzing, and publishing information pertinent to this group. Appendix I provides further details regarding the Survey and the many activities of the Office.

During the 1972-73 school year the Office of Demographic Studies in its annual survey collected information on demographic characteristics of 43,946 hearing impaired students enrolled in 712 special educational programs throughout the United States. This report presents the relationship between these characteristics and the ethnic background of the students.

During the 1972-73 school year approximately 21,000 hearing impaired students were attending residential schools for the deaf, 9,000 were in day schools for the deaf, and 24,000 were receiving other special educational services, ranging from full-time special classes to resource rooms and itinerant programs in regular schools for hearing students. These 54,000 students were being educated in 76 residential schools, 105 day schools, and in special programs in more than 3,000 regular schools and clinics in the country. The data contained in this report are based on individual questionnaires completed by the programs on 43,946 of these students. The information thus collected includes approximately 81% of the total known population of hearing impaired students in special educational programs, with coverage being about 90% for students in residential programs and about 70% for students in day programs.

In addition to the data given on the ethnic background of these students, information on the following topics is included: hearing loss among young persons in the general population, regional and state distributions of hearing impaired students, the types of special educational programs they attend, distributions for age and sex, degree of hearing loss, age at onset of hearing loss, cause of the hearing loss, additional handicapping conditions, and hearing status of parents; finally, data are presented on the degree of integration of ethnic groups receiving special educational services.

DATA COLLECTION METHODS

Each year all programs known by the Office of Demographic Studies to be offering special educational services to hearing impaired students are invited to participate in the Annual Survey. At the beginning of the 1972-73 school year letters of invitation were sent to approximately 1,050 programs, many of which included more than one school with hearing impaired students under their administrative control. Approximately 68% of these programs submitted data to the Annual Survey for the 1972-73 school year; as indicated earlier, these participating programs enrolled approximately 81% of the estimated 54,000 students receiving special educational services for their hearing impairment. Among the reasons given by those programs that were unable to participate were that they did not have the staff time to complete the forms, that they did not offer special educational services to hearing impaired students, or that school board regulations prevented them from participating.

The basic survey form used in gathering the data for the 1972-73 school year appears in Appendix II. The items included on the form were selected on the basis of recommendations from the members of the Office's National Advisory Committee and requests from researchers in the field of hearing impairment. Consideration was also given to the type of information that the schools might already have in their files. The Office of Demographic Studies did not want to request so much information that the schools would either find it impossible to complete the forms or have an overly difficult time trying to locate the information.

*At the time of this study, Dr. Ries was Director of the Office of Demographic Studies.

One further point regarding survey data collection methods needs emphasis. The Office of Demographic Studies, in compliance with Federal privacy regulations, takes all necessary steps to preserve the confidentiality of data reported to it by participating programs. Schools participating in the Annual Survey are encouraged to report their students by number code rather than by name, and Survey files are accessible only to ODS researchers and staff. No information regarding an individual school or student is ever released without written permission from the data source.

QUALIFICATIONS AND LIMITATIONS OF THE DATA

For data to be meaningful and useful, they must be interpreted and evaluated. In order to do this effectively, however, the data users must be aware of the qualifications and limitations inherent in the data. One of the practices of the Office of Demographic Studies is to identify those considerations it feels must be taken into account in utilizing its data.

A basic consideration related to all the variables discussed here is that these data reflect only those programs that have participated in the Annual Survey. As most residential and day schools in the nation are cooperating in the Survey, students in these programs are well represented; coverage is less adequate, however, for other types of special educational programs, especially for part-time day classes.

A problem encountered with some of the items for which the Survey sought information was that the schools either did not have or could not release information on these items for all students. When the information on a particular item is not reported for a large number of students, it is difficult to know the true distribution of the data for that item. Table 1 provides a summary of the percentage of records for which data on selected items were not reported or were not usable.

TABLE 1: PERCENTAGE OF RECORDS WITH DATA UNKNOWN, UNREPORTED, OR UNUSABLE

Item	Percent of 43,946 Records
Ethnic Classification	14.3
Sex	0.4
Age	0.8
Degree of Hearing Loss	6.6
Age at Onset of Hearing Loss	13.9
Additional Handicapping Conditions	14.4
Cause of Hearing Loss	45.6

No information was submitted on the ethnic background of 6,283 students. Considerations relating to these 14.3% of unknowns are discussed at the conclusion of the following section, "Presentation of the Data." Some of the unknowns on the ethnic background item are due to the reluctance of school officials to reveal this type of information because of legal restrictions imposed by state or local authorities.

Data on age and sex were submitted for more than 99% of the students. Information on the students' present educational program was available on 100% of the students. If a program category had not been selected on the questionnaire for a particular student, either the school was called and the information obtained, or a judgment was made in the survey office on the basis of additional data recorded on the questionnaire by taking into consideration the type of programs marked for other students within the same school. Such editing was necessary in less than 1% of all cases.

The degree of hearing loss for each student was requested from the school in terms of the most recent audiological examination. The student's better ear average (BEA) was then computed by averaging the pure-tone threshold levels for the better ear at the speech frequencies of 500, 1000, and 2000 Hz. In order to compute the average, results must have been reported for all three frequencies for each ear. If in testing there was a non-response at a certain frequency, a value of 120 dB, ISO, was assigned to that frequency. (All data reported in ASA were first converted to ISO standards.) If a BEA could not be computed from the given audiological information, the school was asked to estimate the degree of hearing loss of the student on a scale of six categories ranging from "within normal limits (less than 27dB, ISO)" to "profound (91dB plus, ISO)."

Audiograms from which a BEA could be computed were received on 78.5% of the students. For another 14.9%, judgments of the degree of hearing loss were available. Thus, for only 6.6% of the students was there no information available on the degree of their hearing loss. It is important to note that the number of students in any one of the six estimated categories did not vary by more than 2.0% from the number of students with computed BEAs when these latter were grouped into the same six categories; this fact indicates that there was a similar distribution of degrees of hearing loss for those students for whom a BEA could be computed and those for whom only estimates were reported.

The age at onset of hearing loss was not available for 13.9% of the students. The cause of hearing loss was not known or was unreported for 45.6%. This high figure includes two different types of unknowns. When the specific cause for a given student was unknown, the programs were asked to check either "cause cannot be determined" or "data not available in child's record." The former implied that an attempt had been made to obtain this information from the student's

parents or from others, but that the knowledge was simply not available. The latter was meant to signify that the knowledge, which might be available, had not been recorded by the educational program. Of the 20,052 students on whom no specific cause was reported, 10,139 were classified by the programs as "cause cannot be determined."

Data on additional handicapping conditions were not reported for 14.4% of the students. It should be kept in mind in reviewing the additional handicap data that the Annual Survey did not seek information on the severity of the additional problems or on the profession of the person who made the diagnosis of the handicap. Some respondents may have indicated there was a handicap only if a medical diagnosis appeared in the student's folder; in other cases parents, teachers, or other school personnel may have made independent judgments. Furthermore, reporting of "Emotional or Behavioral Problems" often involves a subjective element, whereas the diagnoses for other types of handicapping conditions are more frequently based on medical, psychometric, or other evidence (Gentile and McCarthy, 1973). This caveat should not be interpreted to mean that the "Emotional or Behavioral Problems" data have been inaccurately reported by the schools; rather it is simply an indication of the need for care in interpreting such data and is therefore a proper inclusion in the "Qualifications and Limitations of the Data" section of this report. Interested readers may refer to ODS publication R-1 on emotional/behavioral problems for additional information in this regard (Jensema & Trybus, 1975).

Finally, it should be emphasized that the rates of unknowns discussed above are based on the 43,946 students reported to the Annual Survey, not on the population of approximately 54,000 hearing impaired students attending special educational programs in the United States.

PRESENTATION OF THE DATA

The data presented in this report may be viewed in two ways. First, they may be used to make comparisons among the ethnic groups for each of the variables. Second, the more detailed tables contain a "Total" column which may be consulted when the user is interested in the characteristics of all of the students reported to the Annual Survey for the 1972-73 school year, regardless of the ethnic background of the students.

In presenting the data according to ethnic background, the following categories are used: white, black, Spanish-American, other, and unknown. A few words are necessary regarding each of the last three of these categories.

In comparing data in this report to other sources of statistical information, it should be noted that governmental statistical sources usually include people of Spanish origin in the category "white." In this report, they are treated separately. (Reporting of such ethnic data takes on added significance in light of the January, 1974, Supreme Court *Lau* decision requiring schools to provide assistance to non-English-speaking students or risk the loss of Federal aid.) Care must be taken, therefore, to recognize this methodological divergency whenever these data are compared to the findings in other statistical reports.

The "other" category in this report includes those students who were classified as Oriental (0.6%), American Indian (0.5%), or as having some other ethnic background (0.4%). These ethnic categories have been combined here into a single grouping, and this grouping appears in each of the larger, more detailed tables. However, in some of the figures and tables which highlight the major relationships among the ethnic groups, this "other" category is excluded, since, even when combined, the categories which comprise the "other" ethnic grouping amount to under 2% of the total students in the survey.

One other fact about the "other" category should be mentioned. For 143 students two ethnic backgrounds were reported. In the discussion of the data that follows and in the tables and figures, these 143 students of mixed heritage are placed in the "other" ethnic category, a group which, as indicated above, also includes American Indians, Orientals, and a very small number of students with another single ethnic background.

In regard to the "unknown" category, the ethnic status of 6,283 students was not reported, and a column for these unknowns is included in all of the more detailed tables. However, in the discussion of the data and in the tables and figures incorporated into the text, the unknown cases are generally excluded. While percentage breakdowns calculated when the unknowns are excluded will usually reflect more closely the total situation with regard to any variable than do the percentage breakdowns which include the unknowns, following this procedure assumes that the characteristics of the students of unknown ethnic background are the same as for the group of students on whom data are known. In this context, it should be noted that there are some indications that the category of "unknown" ethnic origin contains a slight overrepresentation of students from groups other than the white majority.

A simple rule may be followed in deciding the validity of the assumption of equivalent distributions between the known and unknown cases. If the percentage distribution of the "unknown" ethnic group is the same as or very similar to that of the "total" group, then it is highly probable that the assumption is valid. As the differences between these two groups increase, the assumption of equivalent distributions becomes less valid.

SPECIAL EDUCATION AND GENERAL POPULATION

Whether hearing impaired persons from minority groups are receiving special educational services comparable to those received by white persons with simi-

lar types of hearing problems is a question of major importance. Table 2 shows the number and percentage of hearing impaired students in each of the major ethnic groups reported to the Annual Survey as receiving special education in the United States during the 1972-73 school year. As may be noted, when the students whose ethnic background was not reported to the Annual Survey are excluded, approximately 76% are white, 15% black, and 7% Spanish-American, with slightly under 2% belonging to other ethnic groups.

TABLE 2: ETHNIC DISTRIBUTION OF HEARING IMPAIRED STUDENTS ENROLLED IN SPECIAL EDUCATIONAL PROGRAMS FOR THE HEARING IMPAIRED: 1972-73 SCHOOL YEAR

Ethnic Classification	Number	% Including Unknowns	% Excluding Unknowns
All Groups	43,946	100.0	100.0
White	28,672	65.2	76.1
Black	5,671	12.9	15.1
Spanish-American	2,650	6.0	7.0
Other*	670	1.5	1.8
Unknown to Annual Survey	6,283	14.3	—

*This "Other" ethnic category includes persons of Oriental, American Indian, and other specific backgrounds.

It is difficult to say whether the minority group representation in special education as reported to the Annual Survey is proportionate to the number of hearing impaired children in each of the minority groups. Exact figures on the prevalence of hearing impairment in the general population for all of the ethnic groups do not exist. We can, however, draw together some relevant information which may shed light on this subject.

Table 3 shows the ethnic breakdown of the United States general population for all children under the age of 18. Figure 1 compares the percentages of each of the ethnic groups under 18 years of age in this general population with students reported to the Annual Survey as receiving special educational services related primarily to their hearing impairment. There is clearly little difference for each of the ethnic groups between the general population figures and the Annual Survey figures, except for a slight overrepresentation of black students (1.1%) and an equally slight underrepresentation of white students (1.2%) in special education for hearing impaired students. (If only students under age 18 are considered in the Annual Survey data in order to exactly parallel the Bureau of the Census figures,

TABLE 3: ETHNIC DISTRIBUTION OF GENERAL POPULATION UNDER 18 YEARS OF AGE: UNITED STATES, MARCH, 1973

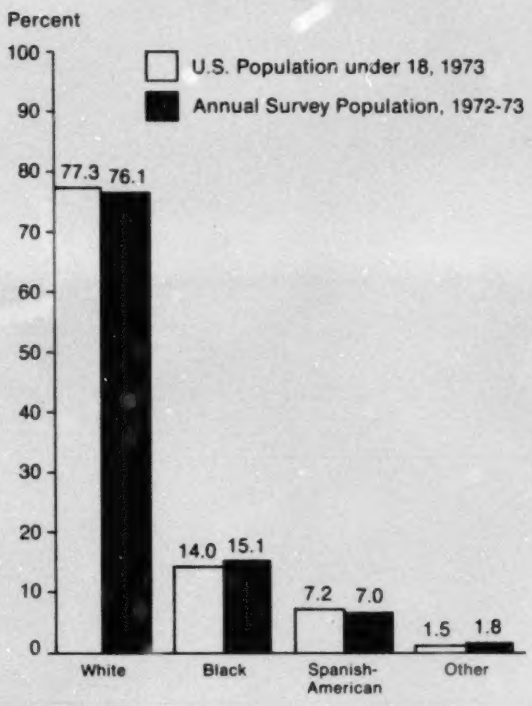
Ethnic Classification	Number	%
All Groups	67,950,000	100.0
White	52,518,000	77.3
Black	9,523,000	14.0
Spanish-American	4,887,000	7.2
Other	1,022,000	1.5

Sources:

U.S. Bureau of the Census, *Current Population Reports*, Series P-20, No. 255, "Marital Status and Living Arrangements: March 1973," U.S. Government Printing Office, Washington, D.C., 1973.

U.S. Bureau of the Census, *Current Population Reports*, Series P-20, No. 264, "Persons of Spanish Origin in the United States: March 1973," U.S. Government Printing Office, Washington, D.C., 1974.

FIGURE 1: PERCENTAGE DISTRIBUTION OF U.S. GENERAL POPULATION UNDER 18 YEARS OF AGE, 1973, AND ANNUAL SURVEY POPULATION, 1972-73



these percentages remain almost identical; the largest difference is, in fact, only 0.4%.)[1]

If it could be satisfactorily established that the percentage of youngsters with a hearing loss in each ethnic group was proportional to the general population figures for each of the ethnic groups under consideration, then it would be possible to conclude that the young hearing impaired people in minority groups were being equally served by special education. Some data bearing on this topic do exist, although problems related to differing definitions and classifications as well as different collection years limit their comparability to Annual Survey data.

In 1971, the National Center for Health Statistics (NCHS) collected information on the hearing ability of the members of a large sample of households (42,000) in the United States. From this sample, estimates were projected regarding the hearing impaired population in the United States. These data have been tabulated for the following racial groups: white, black, and other. Table 4 shows the distribution by degree of hearing impairment for each of these groups. In order to compare these data with those of the Annual Survey, the Spanish-American group must be combined with white for the Annual Survey data, since NCHS classifies people of Spanish origin as white.

[1]The most recent National Census of the Deaf Population (NCDP) in the United States indicates that the prevalence rate for prevocational deafness (i.e., before age 19) is higher for the white population than for the nonwhite (Schein & Delk, 1974, pp. 31-32). How this finding can be reconciled with present Annual Survey data indicating an underrepresentation of white hearing impaired students in special education is not evident at this time. The authors of the Census report may, however, offer a solution to this anomaly by stating that "Other evidence . . . suggests the likelihood of bias in the NCDP's nonwhite sample, as well as underenumeration" (Schein & Delk, 1974, pp. 31-32). Obviously, if the national black deaf population is larger than the Census count due to a selection bias in the sample, then the Census figures and the Annual Survey data may not be at variance with one another. Another possible explanation is, of course, that white hearing impaired students, for whatever reasons, are placed in mainstream, regular education classes more frequently than black students.

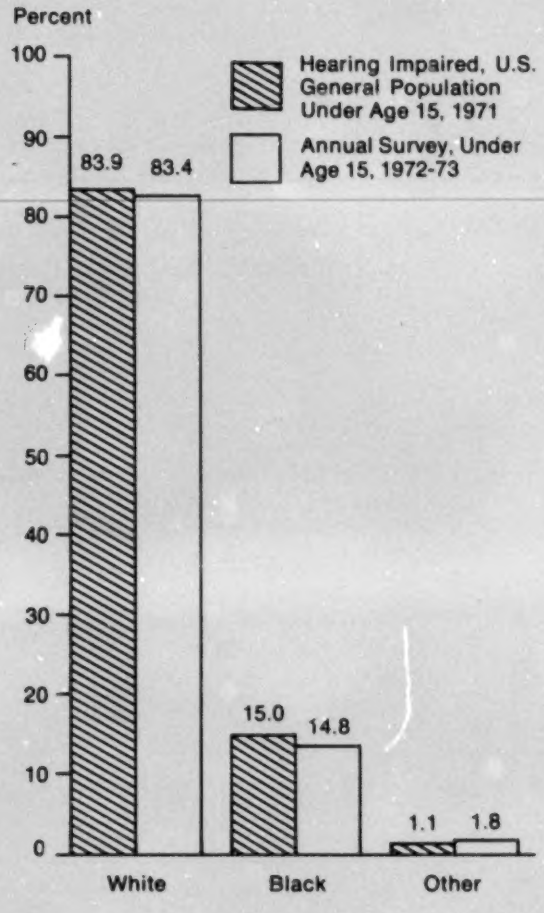
TABLE 4: NUMBER AND PERCENTAGE DISTRIBUTION OF PERSONS IN THE GENERAL POPULATION, BY AGE GROUPS AND LEVEL OF BILATERAL HEARING LOSS: UNITED STATES, 1971[a]

	Number				Percent			
		Bilateral Hearing Loss[b]				Bilateral Hearing Loss[b]		
Ethnic Classification	United States	All Degrees	Shouted Speech[c]	Normal Speech[d]	United States	All Degrees	Shouted Speech[c]	Normal Speech[d]
All Ages	191,301,860	6,324,926	2,446,840	3,878,086	100.0	100.0	100.0	100.0
White	168,174,110	5,908,766	2,278,560	3,630,206	87.8	93.4	93.1	93.6
Black	21,309,283	372,932	151,159	221,773	11.1	5.9	6.2	5.7
Other	2,118,467	43,228	17,121*	26,107*	1.1	0.7	0.7*	0.7*
Under 15	47,804,777	340,432	124,957	215,475	100.0	100.0	100.0	100.0
White	40,267,047	285,763	96,991	188,772	84.2	83.9	77.6	87.6
Black	6,954,168	51,084	25,647*	25,437*	14.5	15.0	20.5*	11.8*
Other	583,562	3,585*	2,319*	1,266*	1.2	1.1*	1.9*	0.6*
15 and Over	143,797,083	5,984,494	2,321,883	3,662,611	100.0	100.0	100.0	100.0
White	127,907,063	5,623,003	2,181,569	3,441,434	88.9	93.9	94.0	94.0
Black	14,355,115	321,848	125,512	196,336	10.0	5.1	5.4	5.4
Other	1,534,905	39,643	14,802	24,841	1.1	0.7	0.6	0.7

[a]Children under three years of age, Armed Services personnel, and institutionalized persons are excluded from this table.
[b]Without the use of a hearing aid.
[c]Includes those who cannot hear and understand any speech, those who can hear and understand only words shouted in the better ear, or those who can hear and understand words shouted across a room.
[d]Can hear and understand words spoken in a normal manner, but not a whisper.
*Number below minimum to attain usual reliability of National Center for Health Statistics data.
Source:
1971 Household Interview Survey data from the National Center for Health Statistics, figures adjusted (pre-publication release).

Figure 2 indicates that when this comparison is made for youngsters under the age of 15, only small differences emerge. Thus, it would appear that on a national level and within the limits of these data, each of the major ethnic groups in the country is proportionately represented in special educational programs for hearing impaired children and youth. This does not mean, of course, that in particular cities, districts, or states one or another ethnic group may not be heavily overrepresented or underrepresented in special education for hearing impaired students.

FIGURE 2: PERCENTAGE DISTRIBUTION OF HEARING IMPAIRED PERSONS, UNDER AGE 15 IN THE U.S. GENERAL POPULATION, 1971, AND IN ANNUAL SURVEY, 1972-73



GEOGRAPHIC REGIONS AND STATES

The United States Bureau of the Census groups the 50 states and the District of Columbia into four geographical regions as follows:

Region

Northeast

Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania

North Central

Michigan, Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas

South

Delaware, Maryland, District of Columbia, Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas, West Virginia

West

Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Alaska, Washington, Oregon, California, Hawaii.

Figure 3 shows the percent distribution of the four ethnic groups among hearing impaired students reported to the Annual Survey for each of the four census regions in the 1972-73 school year. The major differences among these regions are:

a. the percentage of white students is highest in the North Central region (88%) and lowest in the South (66%);

b. the percentage of black students is highest in the South (27%) and lowest in the West (6%);

c. there is a higher percentage of Spanish-American students in the West (13%) and the Northeast (9%) than in the other two regions;

d. approximately two-thirds of the students of other ethnic groups (91% of these being American Indian and Oriental) are in the West.

These differences largely reflect the ethnic composition of the population base of the young people in these regions. Table 5 illustrates this by comparing the percentages of white and black students reported to the Annual Survey in each region with the percentages of white and black children under the age of 15 in each of the four regions as reported by the Bureau of the Census for 1970. Only slight differences emerge, mainly in the Southern region where black hearing impaired students are somewhat overrepresented in special education programs.

Table 6 presents the ethnic distribution of the 43,946 hearing impaired students for each of the 50 states and the District of Columbia. The figures for particular states should be used with caution because participation in the Annual Survey varies a great deal from state to state. The figures in the "unknown" column represent students who were reported to the Survey but for whom the item on ethnic background on the questionnaire was left blank. Where only one or two programs from a state reported data, the figures for that state are omitted, since to publish data in this case would contravene the Survey policy of not revealing data on individual programs.

FIGURE 3: ETHNIC DISTRIBUTION BY REGION

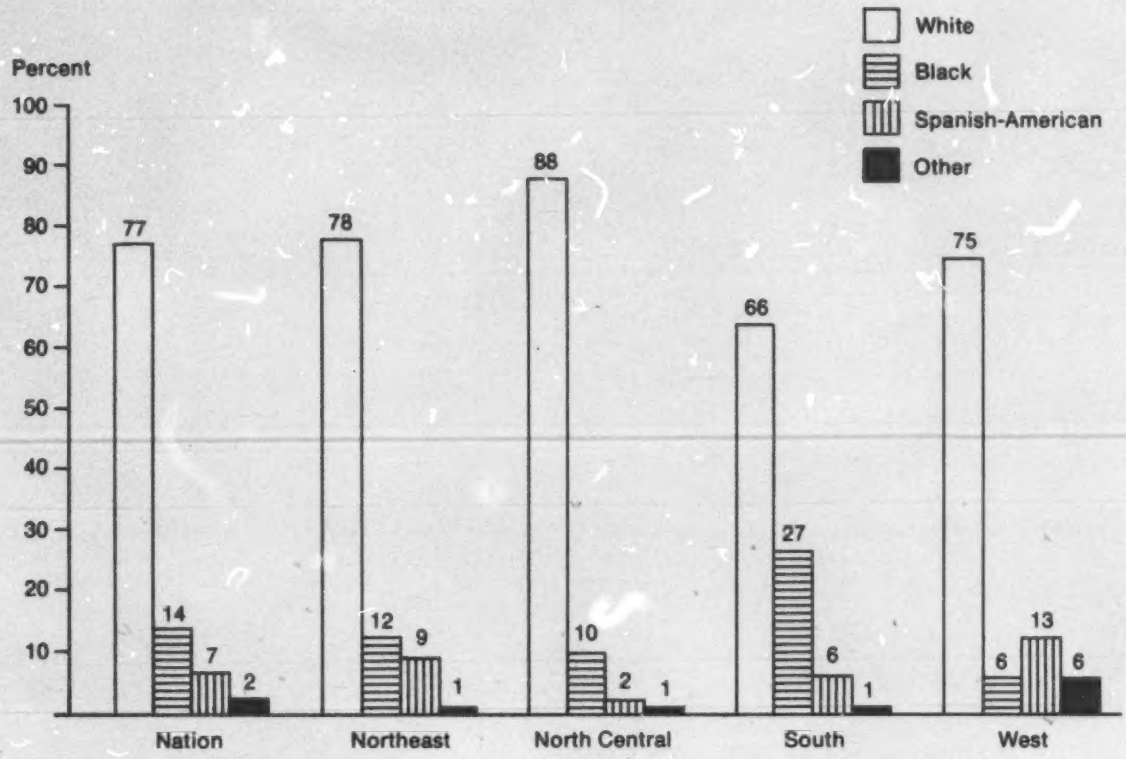


TABLE 5: ETHNIC PERCENTAGE DISTRIBUTION BY REGION, U.S., AND ANNUAL SURVEY

Geographic Regions	Annual Survey, 1972-73 School Year		General Population, 1970 Census[a]	
	White[b]	Black	White	Black
Northeast	87%	12%	88%	11%
North Central	90	10	89	10
South	72	27	76	24
West	88	6	88	6

[a]General Population figures given here are for the under age 15 group, 1970 Census.

[b]Annual Survey percentages in this column combine the white and Spanish-American ethnic categories since Bureau of the Census figures do not have separate categories for these two groups.

Examination of the figures for those states for which data were reported indicates that the ethnic composition of the students in special educational programs for hearing impaired children and youth was generally in line with the distribution of the ethnic groups in the general population of those states.

TYPE OF EDUCATIONAL PROGRAM

For all of the students in the Annual Survey, data are received on the type of educational program in which they are enrolled. Table 7 shows that for the 1972-73 school year 56.2% of those students were in day or non-residential settings and 43.8% were in residential programs. A more detailed breakdown of this ethnic population in specific types of residential and day program settings may also be found in Table 7.

Some residential school students attend on a day basis. Information on whether a student at a residential school was a day or a residential student was not collected on all students during the 1972-73 school year. However, data from previous survey years indicate that approximately 15% of the students at residential schools are day students. If this percentage is applied to the 1972-73 residential school population in the Annual Survey, we can estimate that about 63% of all students in that year's survey were day students, while 37% were residential.

In regard to the type of program attended by these students, there are generally only small differences between the percentages of white and black students attending residential and day programs. However, the percentage of blacks attending day schools is almost twice as high as the percentage of whites who go to

TABLE 6: ETHNIC DISTRIBUTION BY STATE

State	Total		Ethnic Classification									
			White		Black		Spanish-American		Other		Unknown/ Not Reported	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
All States	43,946	100.0	28,672	65.2	5,671	12.9	2,650	6.0	670	1.2	6,283	14.3
Alabama	643	100.0	436	67.8	205	31.9	1	0.2	—	—	1	0.2
Alaska*	—	—	—	—	—	—	—	—	—	—	—	—
Arizona	442	100.0	285	64.5	16	3.6	85	19.2	49	11.1	7	1.6
Arkansas	52	100.0	37	71.1	14	26.9	1	1.9	—	—	--	—
California	4,553	100.0	2,739	60.2	336	7.4	605	13.3	161	3.5	712	15.6
Colorado	633	100.0	474	74.9	22	3.5	82	12.9	10	1.6	45	7.1
Connecticut	768	100.0	614	79.9	66	8.6	42	5.5	7	0.9	39	5.1
Delaware*	—	—	—	—	—	—	—	—	—	—	—	—
District of Columbia**	—	—	—	—	—	—	—	—	—	—	—	—
Florida	1,349	100.0	675	50.0	284	21.0	27	2.0	8	0.6	355	26.3
Georgia	952	100.0	569	59.8	298	31.3	—	—	2	0.2	83	8.7
Hawaii	213	100.0	33	15.5	3	1.4	1	0.5	102	47.9	74	34.7
Idaho*	—	—	—	—	—	—	—	—	—	—	—	—
Illinois	2,501	100.0	1,607	64.3	340	13.6	69	2.8	16	0.6	469	18.7
Indiana	1,019	100.0	893	87.6	106	10.4	10	1.0	3	0.3	7	0.7
Iowa	501	100.0	462	92.2	14	2.8	2	0.4	1	0.2	22	4.4
Kansas	324	100.0	273	84.3	13	4.0	2	0.6	3	0.9	33	10.2
Kentucky	549	100.0	435	79.2	39	7.1	—	—	—	—	75	13.7
Louisiana	695	100.0	161	23.2	231	33.2	5	0.7	—	—	298	42.9
Maine	206	100.0	195	94.7	1	0.5	—	—	1	0.5	9	4.4
Maryland	1,137	100.0	772	67.9	235	20.7	2	0.2	15	1.3	113	9.9
Massachusetts	944	100.0	790	83.7	19	2.0	19	2.0	4	0.4	112	11.9
Michigan	1,997	100.0	1,368	68.5	105	5.3	21	1.0	12	0.6	491	24.6
Minnesota	825	100.0	768	93.1	16	1.9	5	0.6	8	1.0	28	3.4
Mississippi	373	100.0	147	39.4	221	59.2	—	—	2	0.5	3	0.8
Missouri	1,052	100.0	509	48.4	115	10.9	1	0.1	1	0.1	426	40.5
Montana	158	100.0	110	69.6	1	0.6	—	—	5	3.2	42	26.6
Nebraska	297	100.0	154	51.8	5	1.7	2	0.7	2	0.7	134	45.1
Nevada*	—	—	—	—	—	—	—	—	—	—	—	—
New Hampshire	172	100.0	162	94.2	6	3.5	1	0.6	2	1.2	1	0.6
New Jersey	1,183	100.0	784	66.3	151	12.8	106	9.0	16	1.4	126	10.7
New Mexico*	—	—	—	—	—	—	—	—	—	—	—	—
New York	3,406	100.0	1,880	55.2	468	13.7	641	18.8	38	1.1	379	11.1
North Carolina	1,162	100.0	801	68.9	327	28.1	1	0.1	21	1.8	12	1.0
North Dakota*	—	—	—	—	—	—	—	—	—	—	—	—
Ohio	1,803	100.0	1,364	75.7	151	8.4	30	1.7	10	0.6	248	13.7
Oklahoma	464	100.0	379	81.7	43	9.3	6	1.3	28	6.0	8	1.7
Oregon	650	100.0	572	88.0	13	2.0	12	1.8	14	2.2	39	6.0
Pennsylvania	4,229	100.0	2,817	66.6	453	10.7	41	1.0	10	0.2	906	21.5
Rhode Island*	—	—	—	—	—	—	—	—	—	—	—	—
South Carolina	696	100.0	378	54.3	288	41.4	2	0.3	4	0.6	24	3.4
South Dakota	138	100.0	128	92.7	—	—	—	—	9	6.5	1	0.7
Tennessee	813	100.0	657	80.8	131	16.1	—	—	2	0.2	23	2.8
Texas	754	100.0	1,533	55.7	457	16.6	675	24.5	14	0.5	75	2.7
Utah	243	100.0	229	94.2	3	1.2	5	2.1	5	2.1	1	0.4
Vermont**	—	—	—	—	—	—	—	—	—	—	—	—
Virginia	564	100.0	321	56.9	205	36.3	4	0.7	5	0.9	29	5.1
Washington	803	100.0	562	70.0	16	2.0	7	0.9	17	2.1	201	25.0
West Virginia	206	100.0	191	92.7	11	5.3	—	—	—	—	4	1.9
Wisconsin	961	100.0	792	82.4	44	4.6	11	1.1	4	0.4	110	11.4
Wyoming*	—	—	—	—	—	—	—	—	—	—	—	—
10 Excluded States	1,516	100.0	616	40.6	199	13.1	126	8.3	59	3.9	516	34.0

*Confidentiality precludes publication of data for these states.

**Data not reported because ethnic information was received on less than 50% of the students reported to the Annual Survey in these states.

TABLE 7: TYPE OF SPECIAL EDUCATIONAL PROGRAM, BY ETHNIC GROUP

Type of Educational Program	Total		Ethnic Classification									
			White		Black		Spanish-American		Other		Not Reported	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
All Programs	43,946	100.0	28,672	100.0	5,671	100.0	2,650	100.0	670	100.0	6,283	100.0
Residential	19,232	43.8	12,971	45.2	2,404	42.4	710	26.8	323	48.2	2,824	44.9
Day	24,714	56.2	15,701	54.8	3,267	57.6	1,940	73.2	347	51.8	3,459	55.1
Total Specified Programs	43,946	100.0	28,672	100.0	5,671	100.0	2,650	100.0	670	100.0	6,283	100.0
Residential School for Multiply Handicapped	717	1.6	456	1.6	68	1.2	24	0.9	4	0.6	165	2.6
Residential School for Deaf	18,515	42.1	12,515	43.6	2,336	41.2	686	25.9	319	47.6	2,659	42.3
Day School for Deaf	4,965	11.3	2,424	8.4	902	15.9	815	30.8	40	6.0	784	12.5
Full-Time Special Education Classes	11,368	25.9	7,244	25.3	1,415	25.0	799	30.2	218	32.5	1,692	26.9
Part-Time Special Education Classes	2,590	5.9	1,866	6.5	287	5.1	146	5.5	48	7.2	243	3.9
Itinerant Program	3,305	7.5	2,279	7.9	361	6.4	114	4.3	19	2.8	532	8.5
Resource Room	117	0.3	82	0.3	10	0.2	4	0.2	—	—	21	0.3
Speech & Hearing Clinic	973	2.2	789	2.8	93	1.6	23	0.9	13	1.9	55	0.9
Other Special Services	1,396	3.2	1,017	3.5	199	3.5	39	1.5	9	1.3	132	2.1

such schools, 15.9% to 8.4%. As may be seen in Figure 4, 45.2% of the white students and 42.4% of the black students attended residential programs, while 54.8% of the white students and 57.6% of the black students were enrolled in day programs. These percentages differ sharply from those for students of Spanish-American origin, with almost three-fourths of the latter students being in day programs.

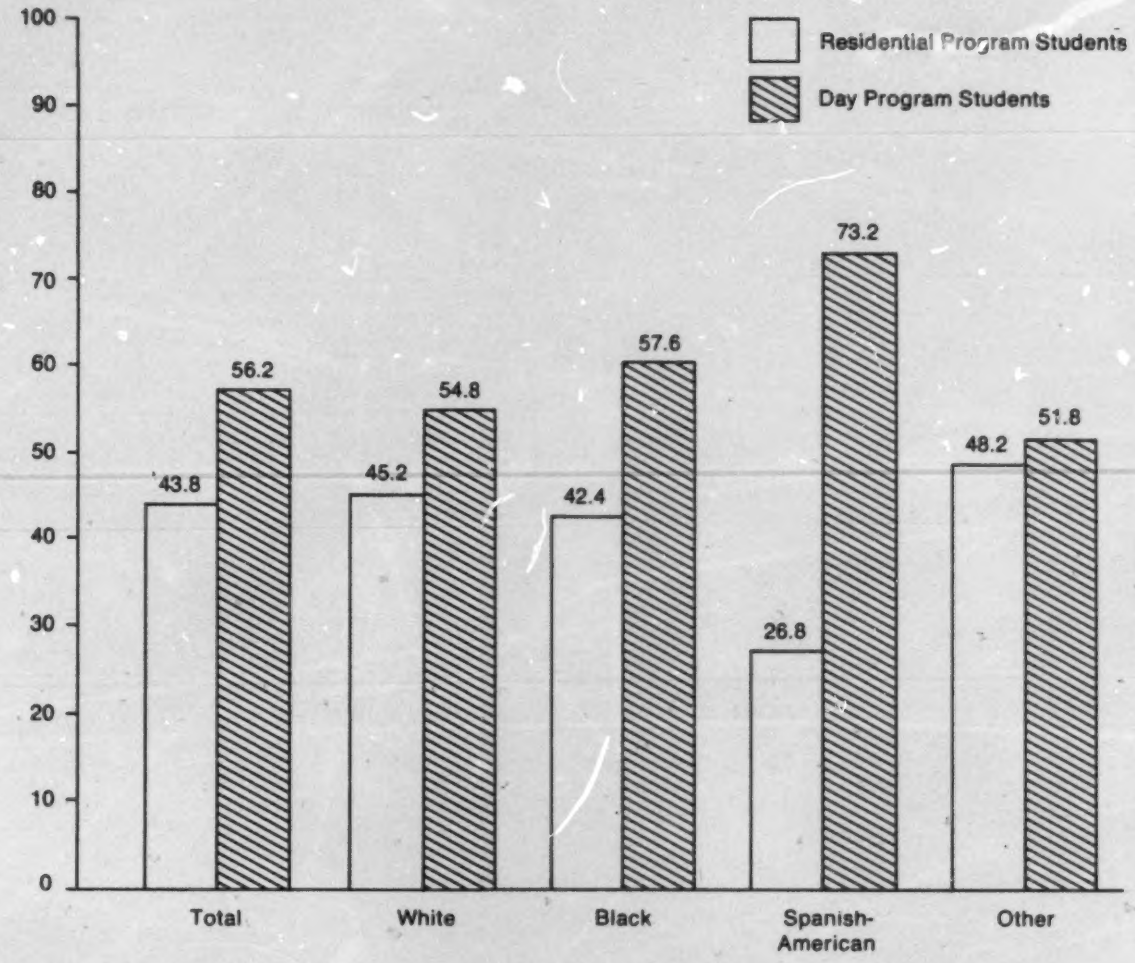
The percentages used up to this point in this section are derived by determining what portion of each ethnic group is enrolled in different types of educational settings. The data in Table 8 focus on the type of educational setting (residential or day) in each of four geographical regions of the country and indicate the percentage of white and of minority students in each of these settings. Viewed in this manner, 79% of the students in residential programs throughout the nation are white, and 21% are from minority ethnic backgrounds; in the day programs, white students comprise 74% of the total enrollment and minority students 26%.

As indicated in the previous section on "Geographic Regions and States," the percentages of white hearing impaired students reported to the Annual Survey for each of the four regions is comparable to the proportion of whites of a similar age in the general population of each of these regions. The major differences that emerge when the distinction between residential and day programs is considered in relation to geographical region are: (1) the Northeast and North Central regions have a higher proportion of white students in residential programs than do the Southern and Western regions; (2) unlike the other three regions, the South has a higher percentage of white students in day programs than are found in residential programs of that region.

AGE AND SEX

Although the nature of the coverage of special educational programs by the Annual Survey has changed over the past six years so that a growing overall proportion of students in day programs is being included in the Survey, the percentage of males and

FIGURE 4: RESIDENTIAL/DAY STATUS, BY ETHNIC GROUP



females in the Survey has remained constant. Table 9 indicates that in the 1972-73 school year there were 53.9% males and 45.7% females among students receiving special educational services. The percentage of males among white students (54.4%) is slightly higher than among all students in the Survey (53.9%), whereas the percentage of males among black (52.4%) and Spanish-American students (53.7%) is lower.

The age distribution of students in the 1972-73 Survey is given in Table 10. With regard to this age distribution, a major shift has occurred in the Annual Survey's data during the past six years. This shift is largely accounted for by the yearly increase in age of those students whose hearing loss was due to maternal rubella. For the 1972-73 school year, most of these students were eight and fourteen years of age, reflecting the epidemic of 1958 and the more severe one of 1964.

Figure 5 shows two important facts.[2] First, and most obvious, is the immense influence of rubella on the age distribution of students receiving special educational services. If we assume that all other factors remain the same for the next several years, a sharp decrease in the number of students receiving special educational services in residential and day programs will begin toward the end of the present decade as the rubella students begin to leave the educational system.

[2]Due to the relatively small numbers at each level in the "Other" ethnic category, we have omitted this category from Figure 5. In this connection it is interesting to note that among hearing impaired students of Oriental background the largest number is not in the eight year old category but rather among the seven year olds — almost four times as many in the latter age group as in the former. Although each age group among the Oriental students contains less than 60 students and the figures should therefore be viewed cautiously, the preponderance of seven year olds among Oriental students, who are concentrated in the Western region, especially California and Hawaii, is most probably due to the rubella epidemic not striking the West Coast in severe form until 1965.

TABLE 8: ETHNIC DISTRIBUTION BY REGION AND PROGRAM TYPE

Ethnic Classification	All Regions		Northeast		North Central		South		West	
	Residential	Day	Residential	Day	Residential	Day	Residential	Day	Residential	Day
All Students	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
White	79	74	90	70	93	85	64	67	76	74
Minority	21	26	10	30	7	15	36	33	24	26

TABLE 9: SEX DISTRIBUTION BY ETHNIC GROUP

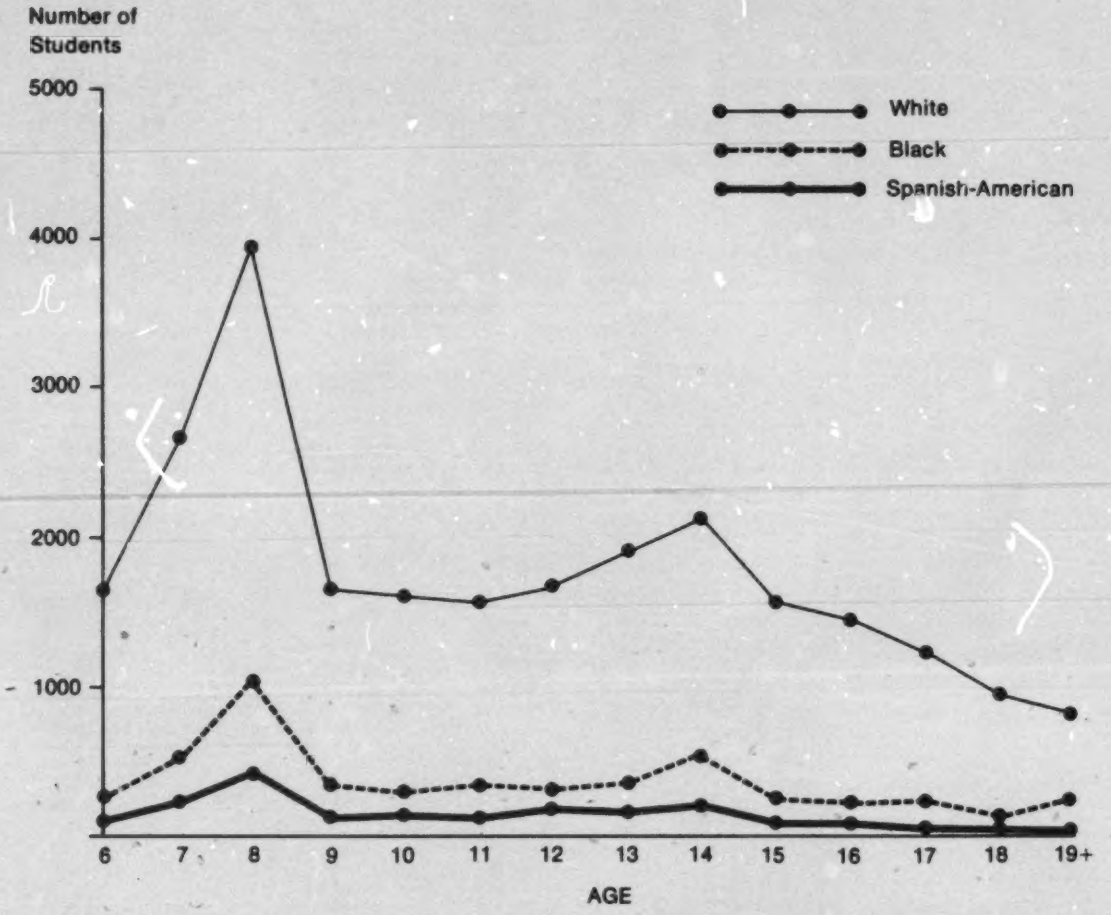
Sex	Total		Ethnic Classification									
			White		Black		Spanish-American		Other		Unknown/ Not Reported	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Both Sexes	43,946	100.0	28,672	100.0	5,671	100.0	2,650	100.0	670	100.0	6,283	100.0
Male	23,704	53.9	15,586	54.4	2,971	52.4	1,423	53.7	373	55.7	3,351	53.3
Female	20,088	45.7	13,001	45.3	2,677	47.2	1,215	45.8	294	43.9	2,901	46.2
Unknown	154	0.4	85	0.3	23	0.4	12	0.5	3	0.4	31	0.5

TABLE 10: AGE AND SEX DISTRIBUTION BY ETHNIC GROUP

Age and Sex	Total		Ethnic Classification									
			White		Black		Spanish-American		Other		Unknown/ Not Reported	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Both Sexes												
All Ages	43,946[a]	100.0	28,672	100.0	5,671	100.0	2,650	100.0	670	100.0	6,283	100.0
Under 6 Years	4,821	11.0	3,500	12.2	467	8.2	258	9.7	95	14.2	501	8.0
6-9 Years	15,302	34.8	9,928	34.6	2,131	37.6	971	36.6	240	35.8	2,032	32.3
10-13 Years	10,658	24.3	6,802	23.7	1,340	23.6	713	26.9	154	23.0	1,649	26.2
14-17 Years	10,067	22.9	6,458	22.5	1,317	23.2	544	20.5	130	19.4	1,618	25.8
18+ Years	2,767	6.3	1,797	6.3	381	6.7	149	5.6	43	6.4	397	6.3
Unknown Age	331	0.8	187	0.7	35	0.6	15	0.6	8	1.2	86	1.4
Male	23,704	100.0	15,586	100.0	2,971	100.0	1,423	100.0	373	100.0	3,351	100.0
Under 6 Years	2,640	11.1	1,882	12.1	251	8.4	189	13.3	47	12.6	271	8.1
6-9 Years	8,149	34.4	5,261	33.8	1,141	38.4	532	37.4	128	34.3	1,087	32.4
10-13 Years	5,799	24.5	3,746	24.0	679	22.9	410	28.8	97	26.0	867	25.9
14-17 Years	5,434	22.9	3,569	22.9	676	22.8	238	16.7	72	19.3	879	26.2
18+ Years	1,520	6.4	1,032	6.6	208	7.0	45	3.2	25	6.7	210	6.3
Unknown Age	162	0.7	96	0.6	16	0.5	9	0.6	4	1.1	37	1.1
Female	20,088	100.0	13,001	100.0	2,677	100.0	1,215	100.0	294	100.0	2,901	100.0
Under 6 Years	2,283	11.4	1,608	12.4	215	8.0	185	15.2	47	16.0	228	7.9
6-9 Years	7,146	35.6	4,638	35.7	983	36.7	475	39.1	112	38.1	938	32.3
10-13 Years	4,896	24.4	3,038	23.4	656	24.5	370	30.5	56	19.0	776	26.7
14-17 Years	4,460	22.2	2,873	22.1	637	23.8	158	13.0	58	19.7	734	25.3
18+ Years	1,163	5.8	764	5.9	171	6.4	24	2.0	18	6.1	186	6.4
Unknown Age	140	0.7	80	0.6	15	0.6	3	0.2	3	1.0	39	1.3

[a]Includes 154 students for whom sex was not reported.

FIGURE 5: AGE DISTRIBUTION OF HEARING IMPAIRED STUDENTS SIX YEARS OLD AND OVER, BY ETHNIC GROUP



Second, the shape of the curves for each of the ethnic groups shows that the effects of the rubella epidemics were felt within each of the ethnic groups. More specific data on the number of rubella students in each ethnic group may be found in the "Cause" section of this report on page 17.

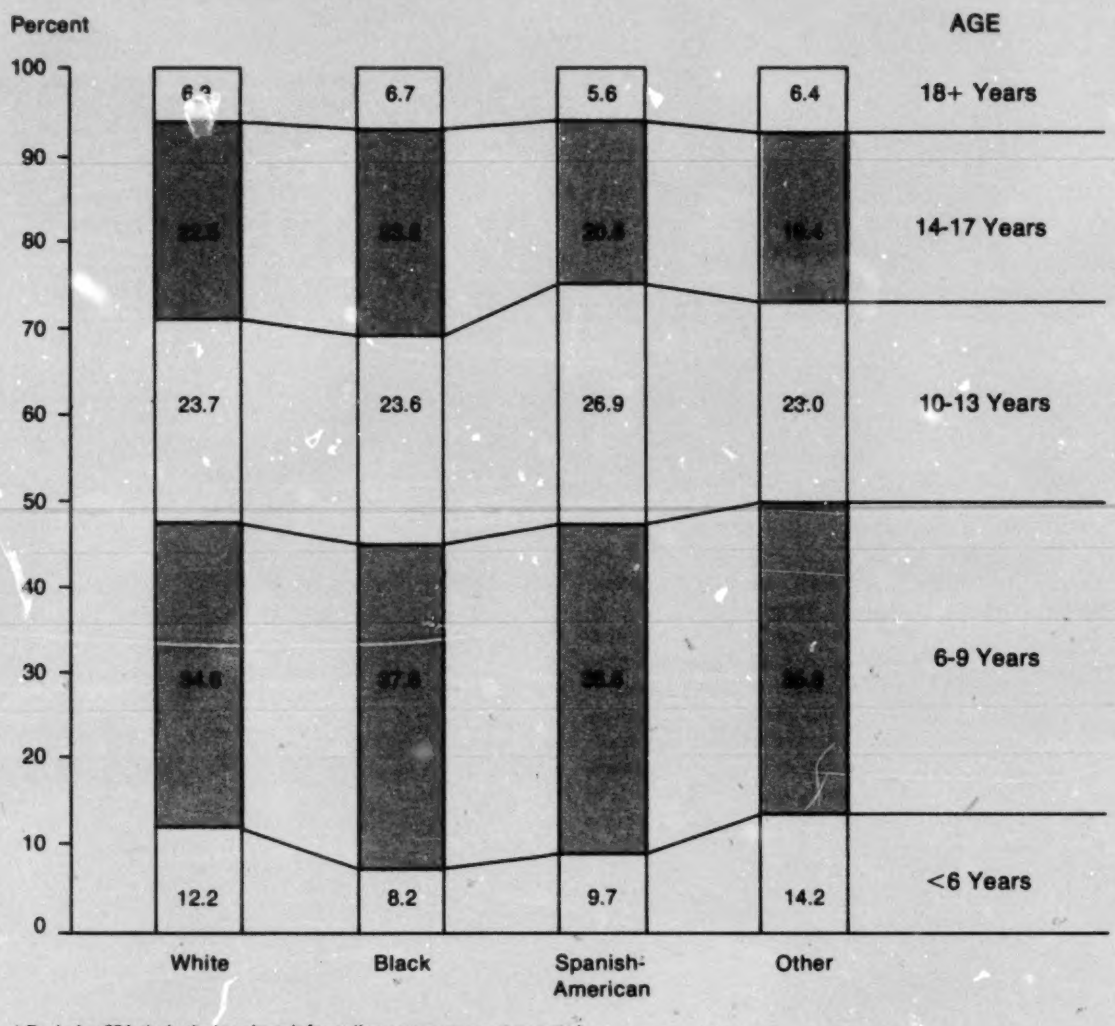
Figure 6 represents the percentage distribution of the data in Table 10 when the 331 cases of unknown age are excluded. The major difference among the ethnic groups appears for students under six years of age, with 12% of the white students, 10% of the Spanish-American, and only 8% of the black being enrolled in preschool programs.

Table 10-A presents the ethnic distribution for various age groupings. The distribution is similar for all the age groups, except for the preprimary school children, the group under 6 years of age, which shows a higher percentage of white students (81%) and a lower percentage of black (11%). Whether this is due to black hearing impaired children not having the same opportunities for entering preprimary school programs as white children or to some other reason is not apparent from the Annual Survey data.

DEGREE OF HEARING LOSS

The Annual Survey seeks audiological information for each student attending programs participating in the Survey. In former years a better ear average (BEA) could not be computed on approximately 20% of the students, either because no audiological data were submitted by the school or because the responses for at least one of the six frequencies needed to compute a BEA were not given. For the last three years the Survey has asked the programs to submit a judgment of the degree of hearing loss where no BEA could be computed. In the 1972-73 school year it was possible to compute a BEA on 78.5% of the students. Judgments were received on an additional 14.9% of the students, with the result that for only 6.6% of the students is there no information available concerning their degree of hearing loss. (Since examination of the data has revealed that only extremely small differences emerge in the distributions from these two disparate sources of information — the computed BEA and the judgment — we shall combine the figures from both of these sources when analyzing the data in this

FIGURE 6: AGE PERCENTAGE DISTRIBUTION BY ETHNIC GROUP *



* Excludes 331 students for whom information on age was not reported.

TABLE 10-A: ETHNIC DISTRIBUTION BY AGE

Age	Total		Ethnic Classification							
			White		Black		Spanish-American		Other	
	No.	%	No.	%	No.	%	No.	%	No.	%
All Ages	37,663*	100.0	28,672	76.1	5,671	15.1	2,650	7.0	670	1.8
Under 6 Years	4,320	100.0	3,500	81.0	467	10.8	258	6.0	95	2.2
6-9 Years	13,270	100.0	9,928	74.8	2,131	16.1	971	7.3	240	1.8
10-13 Years	9,009	100.0	6,802	75.5	1,340	14.9	713	7.9	154	1.7
14-17 Years	8,449	100.0	6,458	76.4	1,317	15.6	544	6.4	130	1.5
18+ Years	2,370	100.0	1,797	75.8	381	16.1	149	6.3	43	1.8
Unknown Age	245	100.0	187	76.3	35	14.3	15	6.1	8	3.3

*Excludes 6,283 students for whom ethnic information was not reported.

TABLE 11: DEGREE OF HEARING LOSS, BY ETHNIC GROUP[a]

Ethnic Classification	Total All Degrees[b]		Degree of Hearing Loss											
			Profound 91 dB +		Severe 71-90 dB		Moderate-Severe 56-70 dB		Moderate 41-55 dB		Mild 27-40 dB		Minimal <27 dB	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Total	41,064	100.0	18,610	45.3	10,952	26.7	5,541	13.5	3,112	7.6	1,618	3.9	1,231	3.0
White	27,067	100.0	12,237	45.2	7,230	26.7	3,582	13.2	2,016	7.4	1,112	4.1	890	3.3
Black	5,297	100.0	2,329	44.0	1,429	27.0	711	13.4	409	7.7	245	4.6	174	3.3
Spanish-American	2,530	100.0	1,157	45.7	684	27.0	382	15.1	221	8.7	63	2.5	23	0.9
Other	617	100.0	289	46.8	168	27.2	84	13.6	51	8.3	16	2.6	9	1.5
Unknown	5,553	100.0	2,598	46.8	1,441	25.9	782	14.1	415	7.5	182	3.3	135	2.4

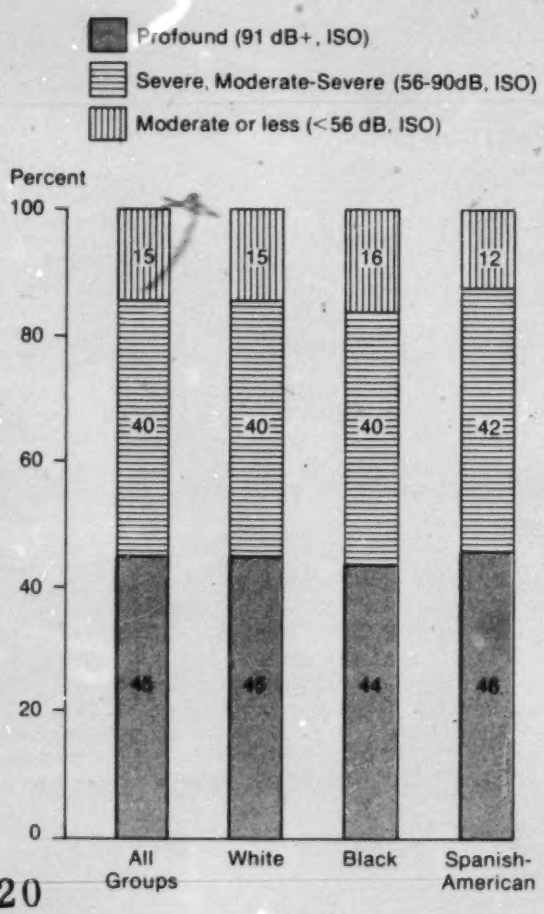
[a]Table includes both students for whom a BEA could be computed and those on whom only a judgment regarding their degree of hearing loss was available.

[b]Excludes 2,882 students for whom no BEA or judgment was reported.

section.) Table 11 presents the degree of hearing loss distribution for each of the ethnic groups.

Figure 7 shows the proportion of each ethnic group falling into three broad classifications of hearing loss. (The "moderate-severe" and "severe" categories have been combined to form one classification and the "moderate," "mild," and "minimal" categories have been combined to form another category to describe those students with a relatively mild loss; the "profound" category remains a separate classification.)

FIGURE 7: SUMMARY OF DEGREE OF HEARING LOSS, BY ETHNIC GROUP



As can be seen, the differences among the ethnic groups are small, with a tendency for blacks to have slightly lower degrees of hearing loss than whites and for Spanish-Americans to have a slightly higher degree of hearing loss than whites. The largest difference between any of the groups for the three classifications of degree of hearing loss is 4%, with 16% of the blacks and only 12% of the Spanish-Americans classified as having a minimal to moderate degree of loss (55dB or less, ISO).

Table 12 presents data on the recency of the audiological examinations received by the students from each of the ethnic backgrounds. If December 31, 1973, is used as the date of reference, the data show that 31.9% of the students had received an audiological examination in the previous two years, 67.1% within the previous four years, and about one-third (32.8%) had not been tested within the previous four years. Compared to white students, black and Spanish-American students are underrepresented among the students tested in the two years previous to December 31, 1973.

TABLE 12: RECENCY OF AUDIOLOGICAL EXAMINATION, BY ETHNIC GROUP

Year of Audiological Examination	All Ethnic Groups*		Ethnic Classification							
			White		Black		Spanish-American		Unknown	
	No.	%	No.	%	No.	%	No.	%	No.	%
All Years	35,090	100.0	23,637	100.0	4,515	100.0	2,241	100.0	4,587	100.0
1972-1973	11,211	31.9	7,791	33.0	1,363	30.2	676	30.2	1,345	29.3
1970-1971	12,357	35.2	8,177	34.6	1,729	38.3	976	43.6	1,421	31.0
Before 1970	11,522	32.8	7,669	32.4	1,423	31.5	589	26.3	1,821	39.7

*Excludes 8,452 students for whom either no audiological information was submitted or the date of the examination was omitted.

AGE AT ONSET OF HEARING LOSS

Table 13 presents data on the age at onset of hearing loss of the 43,946 students reported to the Annual Survey. The specific age at onset was unknown or unreported for 6,115 of these students. Figure 8 presents percentage distributions for those students for whom information on this item was reported to the Annual Survey in terms of three categories: (1) onset of loss at birth, (2) onset after birth but before the age of three, and (3) onset at or after three years of age. Among the ethnic groups, whites had the highest percentage of students whose hearing loss was at birth (77%), and blacks the lowest percentage (65%), with Spanish-Americans (70%) and "others" (72%) falling in between. There is some evidence to indicate that the hearing loss of children of minority backgrounds is identified at a later age from that of white children (Bowe, 1974). Thus, Annual Survey data in this area may point up the need for better identification programs, especially in regard to minority children.

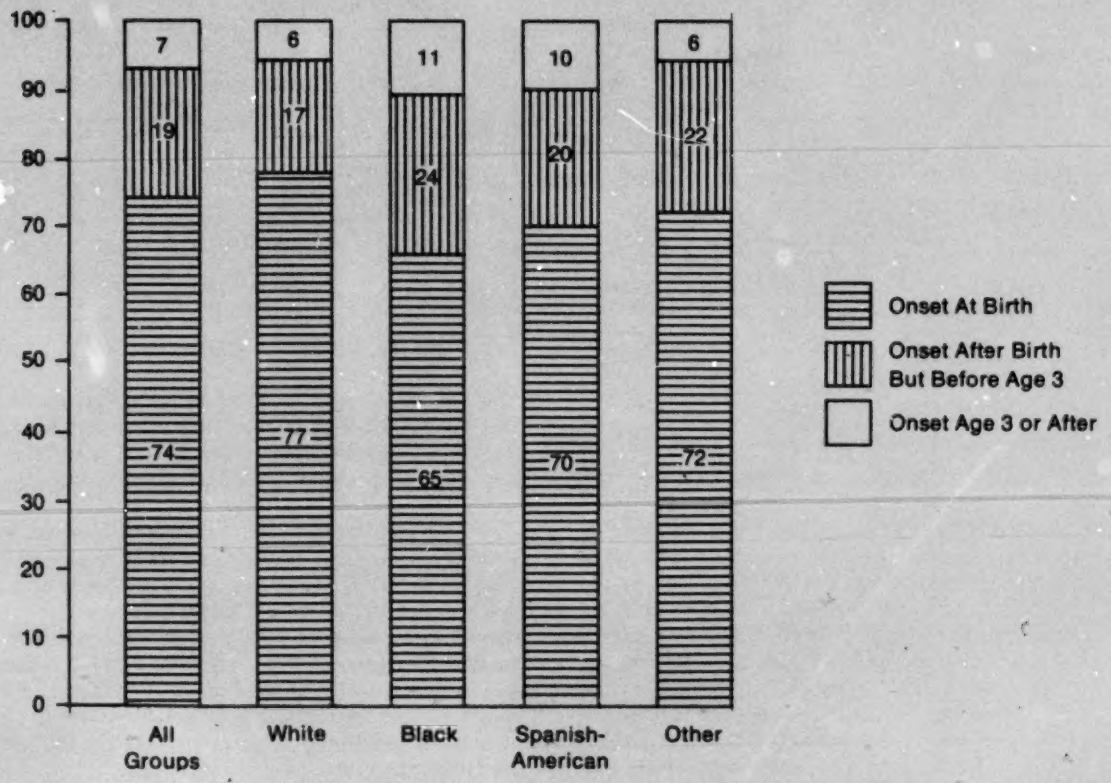
If we consider age three as a reasonable point in children's lives when speech is normally established, then 93% of all of those students whose age at onset was reported to the Annual Survey experienced their hearing loss during the prelingual period of their development. Specifically, the white and "other" ethnic groups had the highest percentage of students who were prelingually hearing impaired, both with 94%.

The major rubella epidemic of 1964 and the less prevalent one of 1958 have led to a situation in which approximately one-third of all students who experienced their hearing loss at birth did so because of this

TABLE 13: AGE AT ONSET OF HEARING LOSS, BY ETHNIC GROUP

Age at Onset	Total		Ethnic Classification									
			White		Black		Spanish-American		Other		Not Reported	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
All Ages	43,946	100.0	28,672	100.0	5,671	100.0	2,650	100.0	670	100.0	6,283	100.0
At Birth	28,163	64.1	19,158	66.8	3,096	54.6	1,588	59.9	404	60.3	3,917	62.3
Under 1 Year	2,654	6.0	1,606	5.6	424	7.5	174	6.6	42	6.3	408	6.5
1 Year	2,649	6.0	1,650	5.8	398	7.0	171	6.5	53	7.9	377	6.0
2 Years	1,665	3.8	950	3.3	319	5.6	131	4.9	28	4.2	237	3.8
3 Years	848	1.9	512	1.8	147	2.6	68	2.6	15	2.2	106	1.7
4 Years	624	1.4	355	1.2	120	2.1	61	2.3	5	0.7	83	1.3
5 Years	540	1.2	333	1.2	113	2.0	35	1.3	5	0.7	54	0.9
6 Years	254	0.6	150	0.5	43	0.8	19	0.7	3	0.4	39	0.6
7 Years	132	0.3	76	0.3	27	0.5	17	0.6	2	0.3	10	0.2
8 Years	99	0.2	67	0.2	16	0.3	8	0.3	—	—	8	0.1
9+ Years	203	0.5	123	0.4	31	0.5	13	0.5	3	0.4	33	0.5
Unknown	6,115	13.9	3,692	12.9	937	16.5	365	13.8	110	16.4	1,011	16.1

FIGURE 8: ONSET CATEGORIES, BY ETHNIC GROUP[a]

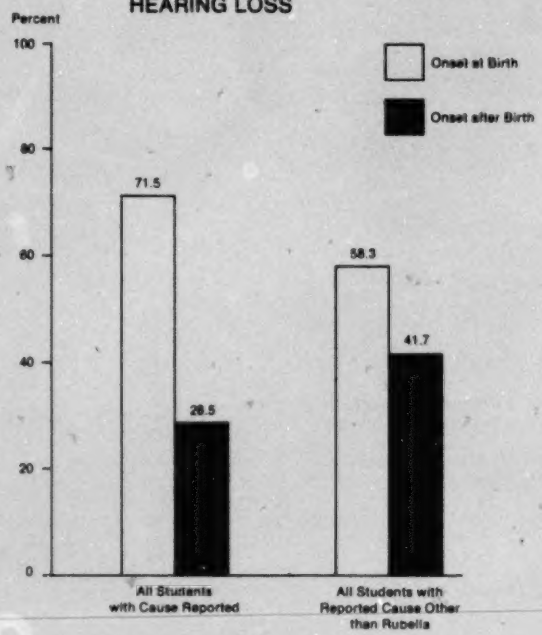


[a]Excludes 6,115 students for whom information on this item was not reported to the Annual Survey.

disease. The implications of this fact for special educational programs have concerned professionals in this area for some time, partially due to the importance of the prelingual versus postlingual factor, partially because of the close association of rubella-caused deafness with other additional handicapping conditions, especially heart disease, visual disorders, and emotional/behavioral problems (Jensema, 1974). Thus, a significant reduction in the number of rubella prelingually-deafened children in special education programs would have significant educational and budgetary importance for these programs.

Figure 9 gives some information on this topic; it contrasts the 1972-73 actual special education enrollment of hearing impaired students reported to the Annual Survey with an hypothetical enrollment for the same schools when the rubella students are excluded. As may be noted, the proportion of students with onset at birth drops from slightly over 70% to under 60% when these students are excluded from the calculations. As indicated earlier, barring a recurrence of such epidemics, a shift toward a lower percentage of students who experienced their hearing loss at birth should begin to appear around the end of this decade among those receiving special educational services for their hearing impairment. It should be noted, however,

FIGURE 9: EFFECT OF RUBELLA ON DISTRIBUTION OF AGE AT ONSET OF THE HEARING LOSS



that certain reservations have been expressed about the effectiveness of the present national rubella vaccine program (Cherry, 1974). Should these reservations prove accurate, programs for hearing impaired students may have to expect a periodic influx of rubella-deafened children.

CAUSE OF HEARING LOSS

A major consideration regarding deafness is that a significant proportion of all people with a profound hearing loss do not know the cause of that loss. Of all the students on whom data were reported to the Annual Survey, the cause is unknown or unreported on 45.6%. For 10,139 or 51% of these 20,052 students for whom the cause was not reported, the checkbox entitled "Cause Cannot Be Determined" was marked. For the other 9,913 (49%) for whom information on cause was not obtained, the item was left blank or the checkbox entitled "Data Not Available in Child's Record" was marked.

Table 14 gives the number of students for whom a single cause was reported and the number of students for whom multiple causes were reported. As may be noted, a total of 26,491 causes was reported for 23,894 students, with a single cause being given for 21,638 students and 4,853 causes being listed for the remaining 2,256 students.

Table 15, which excludes the 20,052 students for whom cause of hearing loss was not reported to the Annual Survey, gives the number and percentage distribution for each of the ethnic groups according to the individual causes. Figure 10 depicts the percentages of whites, blacks, and Spanish-Americans reported for each of the causes, depending on whether the loss occurred at birth or after birth.

When we compare the percentage of black and Spanish-American students with each reported cause to the percentage of white students with the same reported cause, the following results emerge: 1) meningitis and prematurity were reported as causes of hearing loss more frequently among black students than among white, while maternal rubella, heredity, and Rh incompatibility were more often reported among white students than among black; mumps, otitis media, and other complications of pregnancy were reported about equally for blacks and whites; 2) high fever and other specific causes after birth were given as causes more frequently among Spanish-American students than among white students; maternal rubella, meningitis, and Rh incompatibility were reported more frequently among white students than among the Spanish-Americans, while heredity, prematurity, mumps, other complications of pregnancy, otitis media, and infections were reported at similar rates for both of these groups.

The prevalence of meningitis was twice as high among black hearing impaired students as among white or Spanish-American. Educationally this is significant because meningitis as a cause of hearing impairment is frequently associated with more severe degrees of hearing loss and also with losses prior to age 3, i.e., before the acquisition of language (Gentile & Rambin, 1973; Vernon, 1967). The picture is reversed when we consider heredity; the percentage of white and Spanish-American students reported as having heredity as cause of their loss was approximately double that for black students.

It should be re-emphasized that these results are based on data that do not include information on cause for almost one-half of the students included in the survey. The major problem associated with this situation relates to those cases for which heredity is the cause. Whereas Table 15 shows that only 15.6% of the students on whom data were reported have heredity as the cause, it is highly probable that the cause of hearing loss of a much larger proportion of the students receiving special educational services is heredity (Nance & McConnell, 1973, p. 196). Making this adjustment in the data would significantly affect all of the percentages used in this section. As such, only the absolute number and ranking associated with all of the causes excluding heredity should be used in any statistical test of an hypothesis using these data. The percentages shown in Table 15 for reported causes would

TABLE 14: SINGLE VERSUS MULTIPLE CAUSES OF HEARING LOSS, BY ETHNIC BACKGROUND

Number of Causes of Hearing Loss	Total		Ethnic Classification									
			White		Black		Spanish-American		Other		Unknown	
	Students	Causes	Students	Causes	Students	Causes	Students	Causes	Students	Causes	Students	Causes
Total	43,946	26,491	28,672	18,357	5,671	3,034	2,650	1,549	670	404	6,283	3,147
Cause Reported	23,894		16,538		2,719		1,391		366		2,880	
Single Cause	21,638	21,638	14,962	14,962	2,448	2,448	1,248	1,248	333	333	2,647	2,647
Multiple Cause	2,256	4,853	1,576	3,395	271	586	143	301	33	71	233	500
Blank or Unknown	20,052		12,134		2,952		1,259		304		3,403	

TABLE 15: REPORTED CAUSES OF HEARING LOSS, BY ETHNIC GROUP

Cause of Hearing Loss	Total*		Ethnic Classification									
			White		Black		Spanish-American		Other		Unknown Not Reported	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Total Students	23,894		16,538		2,719		1,391		366		2,880	
Total Causes	26,491		18,357		3,034		1,549		404		3,147	
Maternal Rubella	7,741	32.4	5,493	33.2	738	27.1	421	30.3	126	34.4	963	33.4
Heredity	3,719	15.6	2,779	16.8	237	8.7	240	17.3	59	16.1	404	14.0
Meningitis	2,342	9.8	1,430	8.6	483	17.8	98	7.0	39	10.7	292	10.1
Prematurity	2,264	9.5	1,464	8.9	372	13.7	119	8.6	30	8.2	279	9.7
Other Complications of Pregnancy	1,423	6.0	950	5.7	152	5.6	87	6.3	23	6.3	211	7.3
Rh Incompatibility	1,371	5.7	1,095	6.6	56	2.1	53	3.8	7	1.9	160	5.6
High Fever	1,014	4.2	656	4.0	140	5.1	98	7.0	20	5.5	100	3.5
Trauma at Birth	1,003	4.2	747	4.5	99	3.6	41	2.9	15	4.1	101	3.5
Measles	899	3.8	587	3.5	127	4.7	73	5.2	17	4.6	95	3.3
Otitis Media	717	3.0	492	3.0	93	3.4	40	2.9	12	3.3	80	2.8
Infections	656	2.7	466	2.8	96	3.5	40	2.9	11	3.0	43	1.5
Trauma after Birth	405	1.7	228	1.4	87	3.2	42	3.0	6	1.6	42	1.5
Mumps	270	1.1	188	1.1	35	1.3	12	0.9	3	0.8	32	1.1
Other Specific Causes at Birth	1,088	4.6	803	4.9	90	3.3	53	3.8	9	2.5	133	4.6
Other Specific Causes after Birth	1,579	6.6	979	5.9	229	8.4	132	9.5	27	7.4	212	7.4

*Excludes 20,052 students for whom cause of hearing loss was not reported to the Annual Survey. The individual percentages represent the proportion of students for whom each cause was reported; percentages do not add up to 100% because some students had multiple causes.

change dramatically for each of the specific causes, should we impute a major proportion of the "Unknown" category to genetic factors, especially recessively inherited hearing losses.

ADDITIONAL HANDICAPPING CONDITIONS

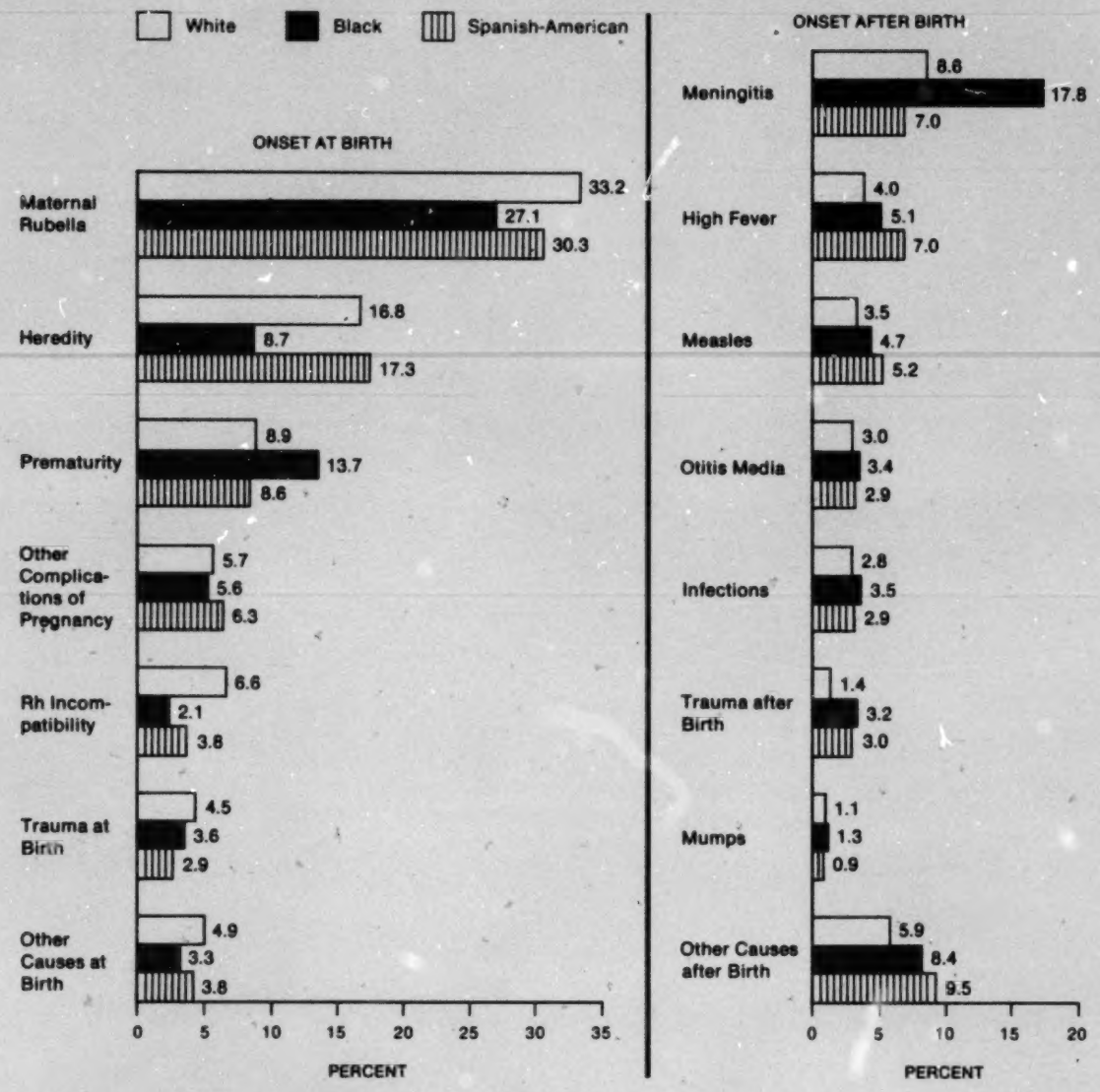
Special educational programs submitting data to the Annual Survey are requested to indicate for each student whether he or she has an educationally significant handicapping condition in addition to the hearing loss, and if so, to indicate the nature of the one or more conditions involved. Since the definition of "educationally significant" varies among programs as well as among individuals who fill out the Survey questionnaires, this data should be viewed with some caution by anyone using this report. Especially important in this regard is the qualification that the data on additional handicapping conditions cited here are information *reported* to the Annual Survey by the special educational programs and schools.

Table 16 shows the distributions for each of the ethnic groups by the number of conditions reported for each student. (The percentages in the table include the students for whom there was no entry for this item on the questionnaire.) Almost 19% of the total 43,946 students had one additional handicapping condition; 6% had two, 3% had three additional handicaps, and 1% had four.

Figure 11 shows the percentages for each of the ethnic groups of students with at least one additional handicapping condition when the unknown cases are excluded. As may be noted, approximately one-third (33.5%) of all the students have at least one additional handicapping condition. Additional handicapping conditions are reported at a higher rate for blacks (39.1%) and at a lower rate for Spanish-Americans (29.8%) than for whites (33.4%).

Table 17 indicates that the 12,604 students having one or more additional handicapping conditions had a total of 19,040 conditions. Table 17 shows the distribution of these 19,040 conditions by ethnic status and

FIGURE 10: ETHNIC DIFFERENCES IN REPORTED CAUSES OF HEARING LOSS*



*The "Other" ethnic category has been omitted from this Figure due to the small numbers of students from this group in each of the causes.

TABLE 16: NUMBERS AND PERCENTAGES OF ADDITIONAL HANDICAPPING CONDITIONS, BY ETHNIC GROUP

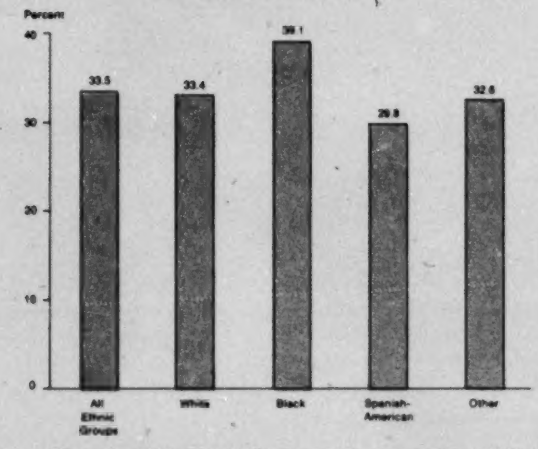
Ethnic Origin	Total Students		Number of Students with Specific Number of Additional Handicapping Conditions										Information Not Reported	
			None		One		Two		Three		Four			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Total	43,946	100.0	24,995	56.9	8,232	18.7	2,760	6.3	1,160	2.6	452	1.0	6,347	14.4
White	28,672	100.0	17,090	59.6	5,526	19.3	1,918	6.7	814	2.8	315	1.1	3,009	10.5
Black	5,871	100.0	2,941	51.9	1,254	22.1	396	7.0	165	2.9	77	1.4	838	14.8
Spanish-American	2,650	100.0	1,690	63.8	485	18.3	173	6.5	45	1.7	14	0.5	243	9.2
Other	670	100.0	395	59.0	126	18.8	37	5.5	17	2.5	11	1.6	84	12.5
Unknown	6,283	100.0	2,879	45.8	841	13.4	236	3.8	119	1.9	35	0.5	2,173	34.6

how many times each condition was reported alone or accompanied by other conditions.

Figure 12 shows the percentage of times specific handicapping conditions were reported for each of the major ethnic groups. The most dramatic difference is the high percentage of mental retardation reported among black students. The reason for this cannot be ascertained from the limited data available for this presentation. Consequently, the initial remarks of this section indicating the subjective elements in the judgment whether or not a student has an additional handicapping condition should be kept in mind in evaluating the significance of this finding, as they should with regard to all of the data reported in this section.

It should be noted that the judgment of mental retardation is often open to ambiguous and subjective interpretation, especially when it is not based on both intelligence testing and observation of the individual's adaptive behavior (Stanford Research Institute, 1975). This is especially important in regard to deaf children where language deficiencies can result in wrong impressions regarding a child's mental capacity.

FIGURE 11: HEARING IMPAIRED STUDENTS WITH ONE OR MORE ADDITIONAL HANDICAPPING CONDITIONS, BY ETHNIC BACKGROUND*



*Excludes 6347 students for whom information on additional handicapping conditions was not reported.

HEARING STATUS OF PARENTS

Data on the hearing status of the parents of the students in the Annual Survey were not collected during the 1972-73 school year. These data were gathered during the 1970-71 school year; but at that time information on the ethnic status of the students was not requested from the schools. This latter item was included for the first time on the 1971-72 questionnaire. In order to retrieve some information on the relationship between the hearing status of the parents and the ethnic background of the students, the records for these two school years, 1970-71 and 1971-72, were matched by student identification number.

Matches were achieved on 25,838 student records. The resulting data are displayed in Table 18. The question on the data form for 1970-71 gave the following options regarding the hearing status of each parent: a) normal hearing before age 6; b) hearing loss before age 6; c) data not available. Thus, some small but unknown number of the parents who are classified here as having "normal" hearing in the table headings are in fact hearing impaired; this would occur for any parents who lost their hearing at age 6 or later.

Aside from all of the cases where a match could not be made between the records for the two succeeding years, there is a very high non-reporting rate for this variable. This is especially true in the case of black students where the "unknowns" for the hearing status of parents reaches 38.5%.

TABLE 17: REPORTED ADDITIONAL HANDICAPPING CONDITIONS, SINGLY AND IN COMBINATION, BY ETHNIC GROUP

Additional Handicapping Condition	Total		Ethnic Classification									
			White		Black		Spanish-American		Other		Unknown/ Not Reported	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Total Students*	37,599		25,663		4,833		2,407		586		4,110	
All Conditions	19,040		13,064		2,849		1,022		295		1,810	
Alone	8,232		5,526		1,254		485		126		841	
With Other Condition	10,808		7,506		1,597		536		118		969	
Brain Damage	1,537	4.1	1,113	4.3	199	4.1	81	3.4	29	4.9	115	2.8
Alone	333		239		37		25		5		27	
With Other Condition	1,204		874		162		56		24		88	
Cerebral Palsy	1,294	3.4	1,017	4.0	112	2.3	41	1.7	21	3.6	103	2.5
Alone	563		451		29		17		14		52	
With Other Condition	731		566		83		24		7		51	
Epilepsy	411	1.1	283	1.1	64	1.3	25	1.0	6	1.0	33	0.8
Alone	132		91		17		13		2		9	
With Other Condition	279		192		47		12		4		24	
Heart Disorders	1,159	3.1	757	2.9	175	3.6	111	4.6	22	3.8	94	2.3
Alone	462		305		67		55		9		26	
With Other Condition	697		452		108		56		13		68	
Mental Retardation	3,373	9.0	2,017	7.9	789	16.3	147	6.1	39	6.7	381	9.3
Alone	1,543		841		436		74		18		174	
With Other Condition	1,830		1,176		353		73		21		207	
Orthopedic Disorders	774	2.1	560	2.2	101	2.1	33	1.4	9	1.5	71	1.7
Alone	234		168		30		8		2		26	
With Other Condition	540		392		71		25		7		45	
Perceptual-Motor Disorders	1,993	5.3	1,370	5.3	246	5.1	153	6.4	22	3.8	202	4.9
Alone	745		485		97		64		6		93	
With Other Condition	1,248		885		149		89		16		109	
Emotional or Behavioral Problems	3,451	9.2	2,453	9.6	480	9.9	161	6.7	45	7.7	312	7.6
Alone	1,744		1,247		234		73		21		169	
With Other Condition	1,707		1,206		246		88		24		143	
Visual Problems	3,202	8.5	2,171	8.5	451	9.3	171	7.1	59	10.1	350	8.5
Alone	1,459		971		173		96		23		196	
With Other Condition	1,743		1,200		278		75		36		154	
All Others Specified	1,846	4.9	1,323	5.2	232	4.8	99	4.1	43	7.3	149	3.6
Alone	1,017		728		134		60		26		69	
With Other Condition	829		595		98		39		17		80	

*Excludes 6,347 students for whom information on additional handicapping conditions was not reported.

FIGURE 12: SPECIFIC ADDITIONAL HANDICAPPING CONDITIONS, BY ETHNIC GROUP

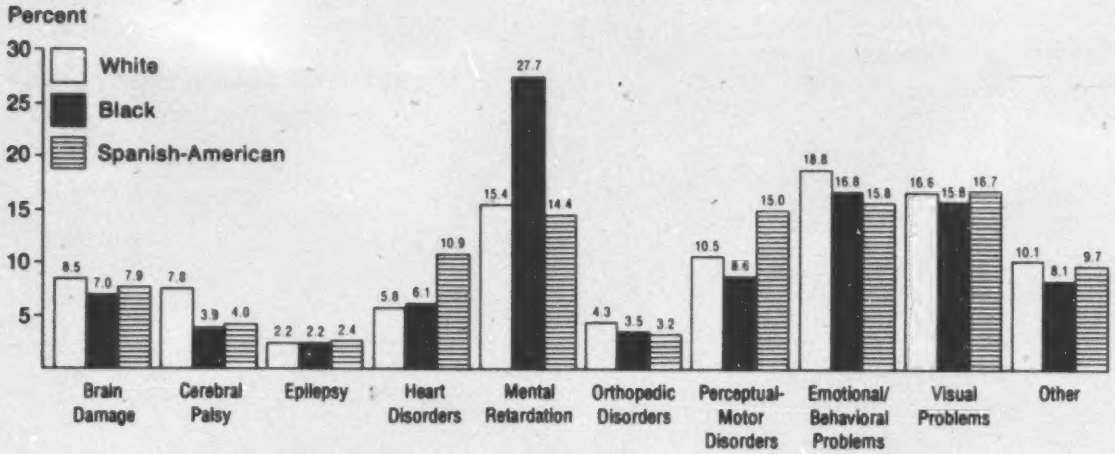


Table 19 shows the data for these 25,838 students for whom information was available on ethnic status and also on the hearing status of both parents, excluding those students with one or both parents whose hearing status prior to age 6 was unknown. The major difference that emerges is between the white students and each of the other minority groups: the white students show a higher percentage of hearing impaired parents and a correspondingly lower percentage of parents with normal hearing than do any of the other groups.

DEGREE OF INTEGRATION

In an earlier section of this report data were presented indicating the proportion of each of the major ethnic groups in special educational programs and in the general population of the country. These data indicated that the ethnic mix in the general population was reflected to a large degree in the special educational programs for hearing impaired students. However, such a finding does not shed light on what is happening in particular school districts or educational programs.

TABLE 18: PARENT HEARING STATUS, BY ETHNIC GROUP

Hearing Status of Parents*	Ethnic Classification											
	Total		White		Black		Spanish-American		Other		Unknown/ Not Reported	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Total	25,838	100.0	15,930	100.0	3,188	100.0	1,358	100.0	350	100.0	5,012	100.0
Both Normal	16,164	62.6	10,592	66.5	1,665	52.2	882	64.9	230	65.7	2,795	55.8
Both Hearing Impaired	756	2.9	582	3.7	29	0.9	15	1.1	4	1.1	126	2.5
One Normal, One Hearing Impaired	373	1.4	256	1.6	29	0.9	19	1.4	2	0.6	67	1.3
One Normal, One Unknown	544	2.1	232	1.5	173	5.4	31	2.3	6	1.7	102	2.0
One Hearing Impaired, One Unknown	400	1.5	263	1.7	64	2.0	9	0.7	3	0.9	61	1.2
Both Unknown	7,601	29.4	4,005	25.1	1,228	38.5	402	29.6	105	30.0	1,861	37.1

*All categories in this column refer to hearing status of parents before age 6.

TABLE 19: SUMMARY OF PARENT HEARING STATUS, BY ETHNIC GROUP[a]

Ethnic Classification	Total	Hearing Status of Parents[b]		
		Both Normal	Both Hearing Impaired	One Normal, One Hearing Impaired
All Ethnic Groups	100.0%	93.5%	4.4%	2.2%
White	100.0	92.7	5.1	2.2
Black	100.0	96.6	1.7	1.7
Spanish-American	100.0	96.3	1.6	2.1
Other	100.0	97.5	1.7	0.8
Unknown	100.0	93.5	4.2	2.2

[a]Percentages do not include those students for whom hearing status of one or both parents was unknown.
[b]Categories refer to hearing status of parents before age 6.

It would be possible, for example, for the *overall* ethnic population of the students in special education in a given region to be proportionate to the ethnic composition of hearing impaired children and youth in the general population of that region; at the same time, each of the particular programs in the region could be completely segregated along ethnic lines.

It should be emphasized that the terms "integration" and "segregation" are used in the context of this discussion in a purely descriptive sense and carry no moral or legal implications. Clearly, a program situated in the inner city or one in an agricultural district might be expected to reflect the racial composition of the area in which it is located.

In order to obtain some idea of the degree of integration in special educational programs, all of the programs which participated in the Annual Survey were classified according to the percentage of white students in the programs. Table 20 shows the national and regional distribution of these programs by their white enrollment. Those programs for which the ethnic status of 15% or more of their students was not reported are excluded from the table. (There were 135 programs enrolling 10,065 students which fell into this category for the 1972-73 school year. Only six schools reported no ethnic information at all, which may indicate a policy decision against ethnic status reporting in those schools.)

As may be noted, nationally five programs had no white students; of these, four were small programs, with enrollments of less than 10 students, and the fifth was a large residential program. There were 134 programs which had no students of minority backgrounds; none of these 134 had enrollments of over 90 students, five enrolled between 50 and 90 students, and 81 had enrollments of 10 students or less. The shaded cell in each column of Table 20 indicates the category into which would fall the mean percentage of white students in each of the regional settings and for the nation as a whole. Thus, the programs which participated in the Annual Survey from the Northeast Region had an average enrollment of white students which was similar to the national average—i.e., in the 76%—80% range. Programs in the North Central Region had, on the average, a higher percentage of white students, while schools in the Southern and Western Regions had a lower percentage of white students.

TABLE 20: EXTENT OF ETHNIC MIX IN SCHOOLS, BY REGION[a]

% Range of White Students	Nation	Region			
		Northeast	North Central	South	West
Total Programs[b]	579	125	145	184	125
0.0%	5	1	1	3	0
0.1-5.9%	4	0	2	2	0
6-10%	2	1	1	0	0
11-15%	8	2	0	6	0
16-20%	5	1	2	2	0
21-25%	8	2	1	3	2
26-30%	7	1	1	2	3
31-35%	9	0	0	4	5
36-40%	4	0	0	3	1
41-45%	12	3	2	4	3
46-50%	15	3	1	7	4
51-55%	10	1	0	6	3
56-60%	25	3	1	16	5
61-65%	19	2	0	9	8
66-70%	24	2	5	10	7
71-75%	23	3	4	9	7
76-80%	37	4	6	14	13
81-85%	50	11	14	18	7
86-90%	65	16	18	17	14
91-95%	75	21	25	16	13
96-99.9%	38	12	16	3	7
100.0%	134	36	45	30	23

[a]Shaded cells indicate category with mean percentage of white students.
[b]Those programs which did not or could not report the ethnic status for 15% or more of their students are excluded from this table.

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Appendices

Appendix I — Description of the Office of Demographic Studies

Appendix II — Basic Data Form Used in the Annual Survey for the 1972-73 School Year

Appendix III — Programs Participating in the Annual Survey of Hearing Impaired Children and Youth, 1972-73 School Year

APPENDIX I

Office of Demographic Studies Gallaudet College

BACKGROUND AND PURPOSE

The purpose of the Office of Demographic Studies and its Annual Survey of Hearing Impaired Children and Youth is to provide, on a national scale, information and data-oriented services which can assist in improving and expanding the educational opportunities available to hearing impaired persons. In order to develop this information and provide these services, it attempts to collect data on the entire hearing impaired population through college age in the United States. This population includes those who are receiving special educational services related to their hearing impairment, those who have been diagnosed as hearing impaired but who are not receiving such special educational services, and those who are in fact hearing impaired but whose hearing loss has not yet been diagnosed. The work of the Office has concentrated, to date, on the individuals in the first group, those who are receiving special educational services related to their hearing impairment.

The Annual Survey was begun in response to the concern of educators, audiologists, legislators, psychologists, and others working in the field of hearing impairment, indicating the need for national data of this type. The Survey began national operations in May, 1968, following two years of pilot and developmental work in a five state area to determine the operational feasibility of a program of this nature. The initial funding was supplied by the Bureau of Education for the Handicapped, U.S. Department of Health, Education and Welfare. Continued financial support from 1972-1974 was provided by the National Institute of Education and by Gallaudet College. Present funding is provided by Gallaudet College, whose programs and services receive substantial support from the Department of Health, Education and Welfare.

POLICIES

The Office actively encourages the use of its information and services and the original data on which they are based by administrators, researchers, teachers and other professionals who are providing services to hearing impaired people, as well as by other individuals and groups devoted to improving the results of special education for hearing impaired persons.

In its work of developing and disseminating useful information, the Office has the benefit of the guidance and advice of its National Advisory Committee. Among its members are hearing and deaf individuals, administrators, researchers, educators, and specialists from other areas within the field of hearing impairment. Every attempt is made to maintain a wide diversity of interests and competencies, as well as geographic representation, among its members. On questions of a technical nature, consultants from specialized fields are utilized as particular needs arise.

While the Office is intended to be permanent and national in scope, it does not aim to replace or absorb the work of other programs at the state or local level which are devoted to the collection and dissemination of information on hearing impaired children and youth. Rather, it seeks to facilitate their work through cooperation whenever this is possible. Nor does the Office view itself as the center for all types of research in this field. It focuses its activities on collecting and disseminating national baseline data on selected topics of general concern to those interested in the education of hearing impaired children and youth. It seeks to make available to researchers, administrators, and other professionals the vast amount of information it possesses and any special services it can render to them.

One restriction which is observed by the Office is that no data will be released which permits the identification of an individual student or cooperating program. Exception to this occurs only when a written release is obtained from the program supplying the information. Otherwise, independent researchers using the data of the Annual Survey have access only to summary statistics or coded information.

Since the Office of Demographic Studies attempts to promote the use of its data by those whose judgments and decisions will have a direct or indirect bearing on the education of hearing impaired individuals, it recognizes a responsibility to devote a part of its resources to the evaluation and improvement of the quality of the information collected and disseminated. This is particularly important because it seeks to establish national norms on the basic characteristics of hearing impaired children and youth. Thus, in its dissemination of information, the Office makes every effort to properly qualify its data and indicate any limitations associated with it.

The Office of Demographic Studies seeks to avoid associating itself with an established position relating to controversial issues within the field of educating hearing impaired individuals. Thus, it does not draw

policy conclusions from its data. Rather, it seeks to facilitate the use of its data by reputable individuals or organizations that may themselves wish to draw policy implications or test research hypotheses that are related to these issues.

DATA COLLECTION

During the first year of the Annual Survey, the 1968-69 school year, data collection activities were directed towards all schools for the deaf and a representative sample (15%) of all special classes. In addition, records on students who were receiving itinerant services were obtained in total from two states and in part from several states. In all, 25,363 individual records were collected.

Since then the Survey has greatly increased its coverage of the population. Over 550 reporting sources with approximately 41,000 students enrolled in their programs cooperated with the Annual Survey for the 1970-71 school year. During the 1971-72 school year, data on approximately 42,000 hearing impaired students from about 640 reporting sources were obtained. Data on almost 44,000 students in 712 programs were received for the 1972-73 school year; these 44,000 students represented approximately 80% of the estimated 54,000 children in special education programs for hearing impaired children.

PROGRAM SERVICES AND PUBLICATION OF THE DATA

The Office is accumulating a large volume of statistical data. The processing and dissemination of this information hold wide implications and potential benefits for educational, audiological, medical, psychological, legislative and other services to the hearing impaired. Towards the goal of fully utilizing the data, the program makes it available to independent investigators for research purposes, including masters' theses, doctoral dissertations, institutional level research programs, private studies, etc. Competent researchers are encouraged to propose detailed analyses of the information to further increase its usefulness. In addition to the direct use of the accumulated data, a second significant value of this large volume of data is the potential it provides for selecting well-described samples on a national basis for special studies of relevant variables.

The Test Department of the Office has completed three National Academic Achievement Testing Programs, in 1969, 1971, and 1974. One result of the 1974 achievement testing program has been the production of national norms for hearing impaired students based on a special version of the 1973 edition of the Stanford Achievement Test revised for these students. The Test Department of the Office is able to supply the revised test materials to educational programs interested in using them to assess their hearing impaired students. Work is also underway on analysis of the vast amount of data generated by the achievement testing projects and by other collections of test information, such as the 22,000 nonverbal I.Q. test scores gathered in recent years.

The Office also provides each participating educational program with tabulations of the characteristics of its own students, as compared with national distributions and with other significant distributions such as those for the state or region in which the program is located. Programs wishing to obtain punch cards or magnetic tape compilations of data for their programs for further analysis are provided with these materials. Standard Record Forms are available from the Office, as are the consulting services of the Office staff for programs wishing to develop or improve their data collection and record-keeping systems in the areas of student characteristics and educational performance.

The unique value of the project lies in its national perspective and in the nationwide network of contacts and working relationships which it has developed during the years of its existence and which underlies all its activities. It is the maintenance of this network and the accumulated experience in its use which allows the Office of Demographic Studies to provide the national baseline data needed by the field of education of hearing impaired children on a continuing basis.

The Office reports much of its data in its own publications series. A listing of the publications issued to date appears on the inside back cover of this report. Reporting also takes the form of articles submitted for publication in professional journals, reports made at professional meetings and conventions, and lectures or seminars at University training programs and other gatherings or associations to which staff members of the Office have been requested to make presentations.

FUTURE PLANS

During its years of operation since 1968, the Office has devoted most of its resources to gathering basic demographic information on hearing impaired students and to the development and standardization of achievement testing procedures for these students. Much attention has been paid to extending the breadth and quality of the data collection, analysis, and reporting.

As the description of the population of hearing impaired students has improved, it has become possible to begin a series of special studies on well-selected samples of these students. Sample studies are currently underway in which families of hearing impaired students and their classroom teachers are providing further information of relevance to the educational process. The scoring results from the National Achievement Test Standardization Program of 1974 are being analyzed, and national norms for hearing impaired students will be available later in 1975. A survey of the educational programs themselves focusing on the instructional staff, supporting staff, facilities, and services of these programs has been

completed, and results of this survey will be published in the near future.

Projects currently under consideration include studies of hearing impaired students in mainstream educational settings and of the vocational training and career education opportunities for hearing impaired students, possibly including some measures of student performance in these areas. Increasing national attention is also being given to the question of achievement or learning in the preschool programs for hearing impaired children; this may also be an area of future activity for the Office.

The success of the Office will ultimately be measured not only by the volume of data collected and reports published, but by the significance of the services it is able to render to those persons who work with hearing impaired children and youth.

APPENDIX II

OFFICE OF DEMOGRAPHIC STUDIES
Gallaudet College, Washington, D.C.

BASIC DATA FORM FOR ALL NEW STUDENTS

ASHICY 1 (73)

ANNUAL SURVEY OF HEARING IMPAIRED CHILDREN AND YOUTH—1972-73 School Year

CONFIDENTIAL: All information which would permit identification of any individual or institution will be held strictly confidential and will be used only by persons engaged in the survey for preparing statistical summaries. The data will not be disclosed to others for any other purpose.

Name of Reporting Source:

I. IDENTIFYING INFORMATION

A. 1. Name of Student or Code Number _____ (Last) _____ (First) _____ (Middle) 2. Date of Birth _____ (Mo., Day, Yr.) 3. Sex ☐ M ☐ F

4. Residence _____ (City) _____ (County) _____ (State)

B. 1. Present School or Agency _____ (Name)

2. Location _____ (Number and Street) _____ (City) _____ (County) _____ (State & ZIP Code)

II. SPECIAL EDUCATIONAL PROGRAM

A. Is this student in a special program for the multiply handicapped? ☐ Yes ☐ No

B. Please describe the type of special educational training this student is receiving related to his hearing loss by checking question 1., 2., or 3 below. Then complete the section in the category you have checked.

1. ☐ RESIDENTIAL SCHOOL
   Is the student: ☐ Residential ☐ Day
2. ☐ DAY SCHOOL AND DAY CLASSES
   ☐ Day School ☐ Part-time Special Educational Classes: _____ Hrs./Week
   ☐ Full-time Special Educational Classes ☐ Itinerant Program: _____ Hrs./Week
   ☐ Other (specify) _____ : _____ Hrs./Week
3. ☐ SPEECH AND HEARING CLINIC SERVICES
   Type (specify) _____ : _____ Hrs./Week

III. HEARING LOSS

A. AUDIOLOGICAL FINDINGS

1. Air Conduction Test (If Air Conduction Results Are Not Available, Go to III A. 2.)
   a. Standard Used: ☐ ISO ☐ ASA b. Date Tested: _____
   Note: If Sound Field Examination, Check Here: ☐

	RIGHT EAR								LEFT EAR							
Frequency	125	250	500	1000	2000	4000	6000	8000	125	250	500	1000	2000	4000	6000	8000
Hearing Level																

If results are not reported at 500, 1000, and 2000 Hz for both ears, complete A. 2.

2. Check the box beside the statement which best describes the student's hearing loss.
   ☐ Normal Limits (Less than 27 dB ISO) ☐ Mild (27-40 dB ISO) ☐ Moderate (41-55 dB ISO) ☐ Moderately Severe (56-70 dB ISO) ☐ Severe (71-90 dB ISO) ☐ Profound (91 dB plus ISO)

B. AGE AT ONSET OF HEARING LOSS
   ☐ At Birth _____ Years of Age ☐ Unknown

C. CAUSE OF HEARING LOSS
   ☐ Cause Cannot Be Determined ☐ Data Not Available in Child's Record

1. If onset at birth, what was the probable cause? (Check all that apply.)
   ☐ Maternal Rubella ☐ Other Complications of Pregnancy ☐ Prematurity ☐ Rh Incompatibility
   ☐ Trauma at Birth ☐ Heredity ☐ Other (specify) _____

2. If onset after birth, what was the probable cause? (Check all that apply.)
   ☐ Meningitis ☐ Mumps ☐ Measles ☐ Otitis Media ☐ Trauma
   ☐ High Fever ☐ Infections ☐ Other (specify) _____

IV. ADDITIONAL HANDICAPPING CONDITIONS

Check all educationally significant handicapping conditions: If none, check here ☐

☐ Epilepsy	☐ Visual Problem	☐ Perceptual-Motor Disorder
☐ Brain Damage	☐ Mental Retardation	☐ Heart Disorder
☐ Orthopedic	☐ Cerebral Palsy	☐ Emotional-Behavioral Problem

☐ Other (specify) _____

V. ETHNIC BACKGROUND

☐ White	☐ Spanish-American	☐ Oriental	☐ Unknown	☐ Cannot Report
☐ Negro or Black	☐ American Indian	☐ Other (specify) _____		

COMMENTS:

APPENDIX III

Programs Participating in the 1972-73 Annual Survey

ALABAMA
- Alabama School for the Deaf
- Birmingham Public Schools
- Blossomwood Elementary
- Children's Center-Montgomery
- Holt Elementary School
- Huntsville Rehabilitation Center
- Lewis Slossfield Speech and Hearing Center
- Mobile Preschool for the Deaf
- Montevallo City Schools
- Northwest Alabama Rehabilitation Center
- The Shrine School
- Tuscaloosa Preschool Deaf Class
- West Athens Elementary

ALASKA
- Alaska Treatment Center
- Anchorage Borough School District

ARIZONA
- Arizona School for the Deaf
- Arizona Training Program at Coolidge
- Easter Seal Society Preschool Program
- Glendale Union High School District
- Holdeman School
- Mesa Public Schools
- Phoenix Elementary School District #1
- Samuel Gompers Rehabilitation Center
- Tucson Public Schools
- Washington Elementary District #6

ARKANSAS
- Arkansas Children's Colony
- Arkansas School for the Blind
- Arkansas Hearing and Speech Center
- Jenkins Memorial Children's Center

CALIFORNIA
- California School for the Deaf-Berkeley
- California School for the Deaf-Riverside
- California School for the Blind
- Fairview State Hospital
- Sonoma State Hospital-School Department
- Porterville State Hospital
- Alhambra Unified School District
- Alum Rock Union School District
- Barstow Unified School District
- Bellflower Unified School District
- Butte County Special Education Unit
- Calvert Street School
- Carlsbad Unified School District
- Cedar Creek School for the Deaf
- Centralia School District
- Ceres Unified School District
- China Lake Elementary School District
- Chula Vista Unified School District
- Covina Valley Unified School District
- Cutler Orosi Unified School District
- East San Gabriel School for Multiply Handicapped Children
- El Centro School District
- Escondido Union School District
- Escondido Union High School District
- Eureka City Schools
- Fremont Union High School District
- John Blacow Elementary School
- Fresno City Unified School District
- Gardena High School
- Glendale Unified School District
- Goleta Union School District
- Grossmont Union High School District
- Hayward Unified School District
- Hanford Elementary School District
- Harbour Educational Unit
- Humboldt County Schools
- Kern County Schools
- La Mesa-Spring Valley School District
- Lancaster Special Education District
- Little Lake City School District
- Lompoc Unified (La Conada) School District
- Long Beach Unified School District
- Cimarron Avenue School
- Marlton School
- Melrose Avenue School
- Merced County Department of Education
- Montebello Unified School District
- Monterey County Schools
- Mt. Diablo Unified School District
- Napa Valley Unified School District
- Norwalk Unified School District

Oakland Unified School District
Oralingua School for the Hearing Impaired
Orange County Assessment Center for Handicapped Children
Orange Unified School District
Orcutt Union School District
Pajaro Valley Unified School District
Pomona Unified School District
Pasadena Unified School District
Peninsula Oral School
Placer County Special Schools
Project Idea-Saratoga
Redwood City Schools
Richmond Unified School District
Riverside County Association
Riverside County Schools
Riverside Unified School District
Sacramento City Unified School District
Salvin Elementary School
San Bernardino County Schools
San Francisco Hearing and Speech Center
San Francisco Unified School District
San Jose Unified School District
San Juan Unified School District
San Mateo High School
Santa Ana Unified School District
Santa Clara School District
Santa Cruz School District
Santa Monica Unified School District
Selaco Downey
Simi Valley Unified School District
Solano County Aurally Handicapped Classes
Southwest School for the Deaf
Stockton Unified School District
Sunnyvale School District
Sutter County-Lincrest
Tehama County Schools
Union School District-Oster School
Vallejo City Unified School District

COLORADO

Colorado School for the Deaf
Aurora Public Schools
Boulder Valley Public Schools
Central Elementary-Denver
Children's Hospital
Colorado Springs Public School District #11
Denver Public Schools
Jefferson Unified School District
Mesa County Valley School District #51
Poudre R-1 School District
St. Vrain Valley Public Schools
Colorado Hearing and Speech-Adams County
Porter Memorial Hospital-Adams County

CONNECTICUT

American School for the Deaf
Mystic Oral School
Oak Hill School
Blackham School
Capitol Region Education Council
East Hartford Public Schools
Hartford Board of Education
Hazardville Memorial School
Magrath School
New Britain Public Schools
Stamford Public Schools
Village State School (Green Acres)
Watertown Public Schools
Woodward School

DELAWARE

Margaret Sterck School
Wilmington Public Schools

DISTRICT OF COLUMBIA

Model Secondary School for the Deaf
Stanley Jackson Department of Special Education
District of Columbia Schools
Kendall School
Washington Hearing Society

FLORIDA

Florida School for the Deaf
Sunland Training Center-Opa Locka
All Children's Hospital Speech and Hearing Clinic
Brevard County Schools
Broward County Schools
Duval County Schools
Escambia County Schools
Hillsborough County Public Schools
Speech and Hearing Center Incorporated-Jacksonville
Lee County Special Education
Leon County Program for Hearing Impaired
Manatee County Schools
Rock Lake Elementary
Palm Beach County Schools
Pinellas County Schools
Shaw Kindergarten Center
Tampa Oral School
Tri County Deaf Program
University of Florida Speech and Hearing Clinic
Volusia County Hearing Impaired Program

GEORGIA

Georgia School for the Deaf
The Davidson School, Incorporated
Georgia Academy for the Blind
Atlanta Speech School
Atlanta Public Schools
Clarke County Schools
Clayton County Schools
DeKalb County Program
Douglas County Board of Education
Georgia Easter Seal Speech and Hearing Center
Franklin and Ha[illegible] County Program
Fulton County Special Education Office
Georgia Center for the Multi-Handicapped
Speech and Hearing Clinic-Gracewood

Houston Speech School
Moultrie Speech and Hearing Center
Ochlocknee Children's Center
Savannah Speech and Hearing Center
Southwest Georgia Easter Seal Rehabilitation
Valdosta Public Schools
Central Georgia Speech and Hearing Center-Baldwin

HAWAII
Hawaii School for the Deaf and Blind
Lehua Elementary
Pearl Harbor Kai Elementary
Sultan Easter Seal School
Washington Intermediate School

IDAHO
Idaho School for the Deaf
Joint School District #215-Fremont County

ILLINOIS
Illinois School for the Deaf
Dixon State School
Elim Christian School
Braille and Sight Saving School
Illinois Children's Hospital School
Banneker School
Alexander Graham Bell School
Black Hawk Hearing Program
Chicago Vocational High School
Drew School
Ericson School
Holy Trinity High School
Illinois State University Day Class for the Deaf
Special Education District of Lake County
Lake View High School
Marquette School
Morrill School
Northwestern Illinois Association
Northwest Program for Hearing Impaired Children
Quincy Public Schools
Ray School
Rockford Public Schools
St. Joseph Hospital
Scammon School
Schurz High School
Shields School
Southern Metropolitan Association
Williamson County
Ella Flagg Young School
Southwest Regional Program-Madison County
East Central Region-Champaign
West Surburban Association for the Hearing Handicapped-Cook County
Mid-Central Region-Peoria County

INDIANA
Indiana School for the Deaf
Ball State University
East Chicago Day Classes
Elkhart Community Schools
Elkhart Rehabilitation Center
Rehabilitation Center-Evansville
Fort Wayne Community Schools
Glenwood Elementary
Green Acres School
Indianapolis Public Schools
Indianapolis Speech and Hearing Center
Marion Community Schools
Michigan City Area Schools
Monroe County Community Schools
Morrison-Mock School
Floyd County Preschool Deaf Program
Plymouth Community School Corporation
Hearing and Speech Center-St. Joseph County
Southbend Community School Corporation
Trade Winds Rehabilitation Center
Vigo County Schools
Anthony Wayne Rehabilitation Center

IOWA
Iowa School for the Deaf
Des Moines Hearing and Speech Center
Hope Haven
Smouse Opportunity School
Sioux City Community School District
Siouxland Rehabilitation Center
United Cerebral Palsy Center
Wapello County School System
Muscatine-Scott County
Office of Special Education-Bueno Vista, Cherokee, Crawford & Ida County Schools

KANSAS
Institute of Logopedics
Lakemary Center
Parsons State Hospital and Training Center
Hutchinson Public Schools
Lawrence Grant Unified School District #497
Mark Twain Elementary School
University of Kansas Medical Center
Sunset Elementary Unified District #305
Unified School District #383
Unified School District #431
Unified School District #443
Wichita Public Schools

KENTUCKY
Kentucky School for the Deaf
Covington Independent Schools
Fayette County Schools
Jefferson County Public Schools
Easter Seal Hearing and Speech Center
Lexington Deaf Oral School
Louisville Public Schools
Louisville Deaf Oral School
West Kentucky Easter Seal Center

LOUISIANA
Louisiana School for the Deaf
Louisiana State School-South Branch
Arcadia Parish School Board

The Cottage School
Jefferson Parish Schools
Lafayette Parish Schools
Monroe City Schools
Speech and Hearing Center of Southwest Louisiana
Sunset Acres Deaf Oral Class
West Park Elementary

MAINE
Governor Baxter State School
Pineland Hospital Training Center
Bangor Regional Speech and Hearing Center
Lake Region High School
Northeast Hearing & Speech Center
Pine Tree Society

MARYLAND
Maryland School for the Deaf
Glenn Dale Hospital
Anne Arundel County Schools
William S. Baer School for the Deaf
Baltimore County Schools
Carroll County Board of Education
Harford County Board of Education
Montgomery County Public Schools
Prince George's County Public Schools
Special Education Center-Hagerstown

MASSACHUSETTS
Beverly School for the Deaf
Boston School for the Deaf
Clarke School for the Deaf
Perkins School for the Blind
Altavesta School
Education Readiness Program
Boston College Campus School
Concord Public Schools
Duxbury Primary School
Fall River Day Classes
Learning Center for the Deaf
Leominster Public Schools
Lowell Preschool for the Deaf
New Bedford-Kempton Public Schools
Killiam School-Reading Class
Springfield Day Class for the Deaf
Thayer Lindsley Nursery
Upsala Street School
Waltham Public Schools
Wellfleet Day Class
Worchester County Hearing & Speech Center

MICHIGAN
Michigan School for the Deaf
Lutheran School
Michigan School for the Blind
Allen Park Public Schools
Battle Creek Public Schools
Branch County Intermediate School District
Brighton Area Schools
Constantine Day School for the Deaf & Hard of Hearing
Copper County Intermediate School District
Detroit Day School for the Deaf
Durant-Tuuri-Mott School
Ida Public Schools
Ionia County Intermediate School District
Kalamazoo Public Schools
Lansing School District
Lapeer School
Muskegon Public Schools
Negaunee Public Schools
Oakland Public Schools
Petoskey Public Schools
Port Huron Area Public School District
Redford Union Schools
Shawnee Public Schools
Shiawassee County Intermediate Schools
Tecumseh Public Schools
Traverse City Schools
Tri-County Center, Incorporated
Tuscola Intermediate School District
Utica Community School
Warren Consolidated Schools
Wayne County Intermediate School District
Wayne State University Rehabilitation Institute
Wayne Westland Community School
Wexford Missaukee Intermediate School District
Wyoming Physically Handicapped Preschool

MINNESOTA
Minnesota School for the Deaf
Austin Public Schools
Bloomington Public Schools
Cooperative School Rehabilitation Center
Duluth Public Schools
Minneapolis Public Schools
Rochester Public Schools
St. Paul Program for the Hearing Impaired
East Central Special Education Region

MISSISSIPPI
Mississippi School for the Deaf
Jackson Public Schools
Mississippi State College Speech Department
University of Mississippi Speech and Hearing Clinic
Ellisville State School

MISSOURI
Missouri School for the Deaf
Central Institute for the Deaf
Woodhaven Learning Center
Children's Mercy Hospital
Columbia Public Schools
Gallaudet School for the Deaf
Neosho Public Schools
Nevada R-5 School District
North Kansas City School District
St. Joseph's School District
St. Louis County Special District
Delaware School

MONTANA
- Montana School for the Deaf
- Billings Public Schools
- Montana Center for Handicapped Children
- University of Montana Speech and Hearing Clinic

NEBRASKA
- Nebraska School for the Deaf
- Central Nebraska Speech and Hearing Center
- Lincoln Public Schools
- Omaha Hearing School
- Omaha Public Schools
- University of Nebraska Speech and Hearing Clinic

NEVADA
- Ruby Thomas Elementary School
- Washoe County Schools

NEW HAMPSHIRE
- Crotched Mountain School for the Deaf
- Amoskeag Center for Educational Service
- Concord Union School District
- Portsmouth Rehabilitation Center
- Supervisory Union #56

NEW JERSEY
- Marie Katzenbach School
- Avon School
- Bancroft School
- Hackensack Program for the Deaf
- Bloomfield Public Schools
- Bordentown City Schools
- Bruce Street School
- The Deron School
- East Brunswick Public Schools
- Elizabeth Public Schools
- Gate House Nursery School
- Gloucester County Public Schools
- Kossuth Street School
- Hunterdon Medical Center
- Kean College of New Jersey
- Madison Township Schools
- The Midland School
- A. Harry Moore Laboratory School
- Morristown Hospital Speech and Hearing Center
- Neptune Township Public Schools
- North Hudson Jointure Commission
- Oak Crest School
- Piscataway Township Schools
- Summit Speech School
- Toms River Schools
- Trenton Public Schools
- Vineland Public Schools
- West Burlington Regional Schools
- Westwood Regional Schools
- Woodbridge Public Schools

NEW MEXICO
- New Mexico School for the Deaf

NEW YORK
- New York State School for the Deaf-Rome
- New York School for the Deaf-White Plains
- St. Mary's School for the Deaf
- Rochester School for the Deaf
- New York Institute for Education of the Blind
- Albany Medical Center
- BOCES-Broome County
- BOCES-Erie County
- BOCES-Nassau County
- BOCES-Rockland County
- BOCES-Westchester County
- Buffalo Public Schools
- Bureau for Hearing Handicapped-Public School #158
- Caritas Day School for the Deaf
- Children's Hospital and Rehabilitation Center
- Cleary School for the Deaf
- Home Program-Rochester School for the Deaf
- Islip Public Schools
- Junior High School 47 School for the Deaf
- Mill Neck Manor Lutheran School for the Deaf
- New York League for the Hard of Hearing
- Queens College Speech and Hearing Center
- Rome State School
- St. Joseph's School for the Deaf
- Schenectady Special Education District
- Syracuse City School District
- State University Medical Center
- Women's Christian Association Hospital
- Yonkers Public School
- BOCES-Warren

NORTH CAROLINA
- North Carolina School for the Deaf
- North Carolina School for the Deaf-Raleigh
- Eastern North Carolina School for the Deaf
- Charlotte Speech and Hearing Center
- Duke Speech and Hearing Clinic
- Gaston County Classes for the Hearing Impaired
- Mecklenburg Public Schools
- Path School, Incorporated
- Tri-County Hearing Impaired

NORTH DAKOTA
- North Dakota School for the Deaf
- Minot Public School District

OHIO
- St. Rita's School for the Deaf
- Akron Public Schools
- Alexander Graham Bell School-Cleveland
- Alexander Graham Bell-Columbus
- Canton City Public Schools
- Clark County Hearing and Speech Center
- Cleveland Hearing and Speech Center
- Edgwood School District
- Four County Program for Hearing Impaired
- Howard School for the Hearing Impaired
- Lakewood Day School for the Deaf

Litchfield Rehabilitation Center-Summit
Lorain City Schools
McKinley Elementary School
Mansfield City Schools
Millridge Center for the Hearing Impaired Children
Patterson-Kennedy Schools
Secondary Hearing Impaired Program
Stark County Department of Education
Toledo Hearing and Speech Center
Toledo Public Schools
Trumball County Schools
Trumball County Hearing Society
Youngstown Public Schools
Zanesville Classes for the Deaf
Hearing and Speech Center of Dayton-Clark County

OKLAHOMA
Oklahoma School for the Deaf
Pauls Valley State School-Hilltop
Community Speech and Hearing Center
Delaware City Public Schools
Enid Public Schools
Moore Public Schools
Muskogee Public Schools
Oklahoma City Public Schools
Shawnee Public Schools
Tulsa Public Schools
Oklahoma University Medical Center

OREGON
Oregon State School for the Deaf
Tucker-Maxon Oral School
Eugene Hearing and Speech Center
Good Samaritan Hospital Medical Center
Jackson County Education District
Portland Center, Hearing and Speech
Portland Public Schools
Salem Public Schools

PENNSYLVANIA
Pennsylvania School for the Deaf
Western Pennsylvania School for the Deaf
Pennsylvania State Oral School for the Deaf
Ebensburg State School and Hospital
Elwyn Institute
Home of the Merciful Saviour for Crippled Children
Overbrook School for the Blind
Pennhurst State School Hospital
St. Mary of Providence Institute
The Woods School
Child Development Center-Norristown
Delaware Valley School District
Pennsylvania DePaul Institute
Willis and Elizabeth Martin School
Philadelphia Public Schools
Pittsburgh Hearing and Speech Society
Pittsburgh Public Schools
Upsal Day School
Wyoming Valley Association
Easter Seal-York County
Pennsylvania Unit 1-Fayette County
Pennsylvania Unit 5-Crawford County
Pennsylvania Unit 7-Westmoreland County
Pennsylvania Unit 8-Bedford County
Pennsylvania Unit 10-Cambria County
Pennsylvania Unit 13-Lancaster County
Pennsylvania Unit 14-Berks County
Pennsylvania Unit 15-Cumberland County
Pennsylvania Unit 16-Northumberland County
Pennsylvania Unit 17-Bradford County
Pennsylvania Unit 18-Luzerne County
Pennsylvania Unit 19-Lackawanna County
Pennsylvania Unit 20-Monroe County
Pennsylvania Unit 21-Carbon County
Pennsylvania Unit 22-Bucks County
Pennsylvania Unit 23-Montgomery County
Pennsylvania Unit 24-Chester County
Pennsylvania Unit 25-Delaware County
Pennsylvania Unit 27-Beaver County
Pennsylvania Unit 28-Armstrong County
Pennsylvania Unit 29-Schuylkill County

RHODE ISLAND
Rhode Island School for the Deaf
Rhode Island Easter Seal Society

SOUTH CAROLINA
South Carolina School for the Deaf
Aiken County School District
Beaufort County Schools
Bennettsville Elementary School
Charleston Speech and Hearing Clinic
Memminger Elementary
Spartanburg Speech and Hearing Clinic
Hearing and Speech Center-Columbus
Darlington Area Schools
Estes Elementary
Fairfield County Schools
Olanta Elementary School
United Speech and Hearing-Speech and Hearing Services
Greenwood District #50
Myrtle Heights Elementary
Richland County School District
Seneca Public Schools

SOUTH DAKOTA
South Dakota School for the Deaf
Rapid City Public Schools

TENNESSEE
Tennessee School for the Deaf
Orange Grove School
Daniel Arthur Rehabilitation Center
Arlington Hospital and School
Sunnyside Elementary School
Tennessee Clover Bottom Hospital and School
Preschool Program for Deaf Children
Greene Valley Hospital and School
White Oak Elementary School
Chatt-Hamilton County Speech and Hearing Center
Memphis Parents School
University of Tennessee Preschool
Bill Wilkerson Hearing and Speech Center

TEXAS
Texas School for the Deaf
Austin State School

Lufkin State School
Abilene Independent School District Preschool
Aldine Independent School District
Amarillo Speech and Hearing Center
Anahuac Independent School District
Austin Independent School District
Baylor University Hearing and Speech Clinic
Beaumont School for the Deaf
Bexar County School
Bi-County School for the Deaf-Brownsville
Bi-County School for the Deaf-Corpus Christi
Brazosport Independent School District
Brooks-Quinn Jones School
Callier Hearing and Speech Center
Corpus Christi Hearing and Speech Center
Dallas County Wide Day School for Deaf
Ector County Independent School District
El Paso County Wide Day School-Hearing Impaired
Farias Special Education
Grayson County Easter Seal
Harlandale Independent School District
Hereford Independent School District
Houston Independent School District
Houston School for Deaf Children
La Marque Independent School District
Lubbock Independent School District
Midland Independent School District
Moody State School for Cerebral Palsied Children
Pasadena Independent District Preschool
Permian Basin Rehabilitation Center
Port Arthur Independent School District
Richardson Independent School District
San Angelo Independent School District
Wakefield Elementary
Sunnyside Speech and Hearing Center
Sunshine Cottage School
Tarrant County Day School
Temple Memorial Treatment Center
Texas Christian University
Audio and Speech Pathology
Waco Independent School District
Wichita Falls Independent School District
Ysletta Independent School District

UTAH

Utah School for the Deaf
Edith Bowen Laboratory School
Granite School District
Jordan School District

VERMONT

Austine School for the Deaf
Vermont Association for the Crippled
Austine Education Unit

VIRGINIA

Virginia School at Hampton
Albemarle County Schools
Arlington County Public
Bristol Virginia School Board Title VI-B Program
Bristol Speech & Hearing Center
Charlottesville Public Schools
Chesterfield County Public Schools
Old Dominion University
Diagnostic, Adjustive and Corrective Center for Learning, Deaf Class
Hampton City Schools
Harrisonburg Public Schools
Norfolk City Schools
Richmond Public Schools
Tidewater Rehabilitation Institute
Virginia Beach City Schools
Dilenowisco Dickenson
Roanoke Virginia Speech and Hearing-Floyd County

WASHINGTON

Washington State School for the Deaf
Washington State School for the Blind
Washington-King
Aberdeen School District #5
Bellevue Public Schools
Bellingham School District 100-C
Bremerton School District
Edna E. Davis School
Edmonds School District #15
Issaquah School District #411
Kent Public Schools
Northshore School District #417
Seattle Public Schools
Seattle Speech and Hearing Clinic Nursery
Sequim School District #323
Shoreline School District #412
Tacoma Public Schools
Washington State University
Tri County-Special Education Program-Lincoln
Washington State Cerebral Palsy Center-King County

WEST VIRGINIA

West Virginia School for the Deaf and Blind
Kanawha County Public Schools
Kanawha Speech and Hearing Center
Marshall University Speech and Hearing Center

WISCONSIN

Wisconsin School for the Deaf
St. John's School for Deaf
Southern Wisconsin Colony and Training School
Appleton Public Schools
Bartlett School
Green Bay School for the Deaf
Kenosha Unified School District
Milwaukee Hearing Society
Milwaukee Public Schools
Oshkosh Area Public School
Pleasant Hill School
Washington Elementary School
Racine Unified School District
Sheboygan Public Schools
Wausau Day School for Deaf

WYOMING

Wyoming School for the Deaf

REPORTS FROM THE ANNUAL SURVEY OF HEARING IMPAIRED CHILDREN AND YOUTH

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